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The Naturalist

December 2012
Volume 137
Number 1081

Yorkshire Naturalists' Union

Journal of Natural History for the North of England

The Naturalist

Vol. 137 No. 1081 December 2012

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Front cover: Yellow Fan *Spathularia flavida,* an unusual fungus of conifer woodlands found in Golden Acre Park, Leeds. Photo: *J.Bowers*

Back cover: YNU Botanical Section members take time out to study a Tansy Beetle *Chrysolina graminis* (inset), found during their field meeting in June 2012. Photo: *J.Simmons*

Yorkshire Naturalists' Union

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Editorial - of lists and papers

At the YNU AGM we undertook to explain editorial policy towards the publication of species lists. In essence the policy is simple. Species lists without commentary or other adornment are better served by the YNU Website and the basic data from which they are compiled should be placed on the NBN Gateway but *The Naturalist* does not provide a suitable means of distribution. Species lists can be useful and, provided we know the provenance, the period and localities they relate to, are an historical record. Journal articles go beyond the historical record. They draw lessons from compiled species lists and interpret them, inform, entertain and challenge the reader. Journal articles are, therefore, open to academic dispute. Species lists, on the other hand, are either complete or incomplete; provided you accept the competence of the compiler to identify the material there is nothing else to be said. They are no more than the presentation of biological data in a particular format. Of course, a journal article may contain a list of species and, provided that list is essential for the article, we will publish it; if, however, we judge that the list is not essential then we ask for it to appear on the Website. We do not want to waste the limited space in *The Naturalist* with material that few want to read. The decision whether a submission is simply a list or contains sufficient commentary and additional material to constitute a journal article, is a judgement call. We perforce have from time to time to make this judgement, which we do in good faith. As the Editorial Board our decision has to be final but we welcome comment on those decisions as letters to the editors.

The objections to this policy concern the security of electronic media in comparison to the permanence of a paper record. Even when paper records are stored in optimum conditions they are far from permanent since the paper decays, as a glance at our collection of early YNU publications will reveal. Printed paper is, furthermore, at risk of technological obsolescence from the Kindle and the iPhone.

The growth of digital data storage capacity far exceeds the generation of data to be stored; to the extent that large quantities of pre-digital data such as the nineteenth century censuses, six centuries of Chancery records and even the Domesday Book are now available on line. We are looking at digitalising the complete run of *The Naturalist* so as to increase the usability of the data it contains and to secure it as a permanent and accessible record.

Digital material is, of course, unavailable to those without access to computers and those lacking computer skills. This problem is easily resolved. On application, our Administrative Officer Claire Neill will provide printed copies of our electronically stored information.

The mammalian diet of Barn Owls at a lowland wet grassland in Yorkshire

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Introduction

The diet of the Barn Owl *Tyto alba* is well studied across the globe and has been the subject of some studies in Yorkshire (Howes, 1998). Although it is a scarce breeding bird in the county (Mather, 1986), the ease of collection and analysis of its pellets can give useful insights into the small mammal fauna of the habitats and locations across which it hunts. This note reports on the contents of 137 Barn Owl pellets collected from nesting boxes at Broomhill Flash, Yorkshire (SE4102), between 2009 and 2011.

Location

Broomhill Flash is a 24.3ha (60 acre) nature reserve in the Dearne Valley floodplain near Wombwell, Barnsley. It is owned and managed by the Garganey Trust. The reserve comprises a 4.6ha lake surrounded by 13.9ha of rough grassland situated at 24m Above Ordnance Datum, parts of which are periodically inundated by floodwaters from the nearby River Dearne and can therefore be described as lowland wet grassland. Patches of Soft Rush *Juncus effusus* and Tufted Hair-grass *Deschampsia cespitosa* occur across more open ridge-and-furrow mixed grassland, giving the site a coarse and marshy appearance. The adjacent Clegg's Meadow is a 5.9ha hay meadow with a diverse meadow flora. The wet grassland is grazed by Highland cattle with no inorganic inputs, and a hay crop is taken off the meadow and then opened to the cattle for aftermath grazing. Low mixed hedges border the reserve on three sides. Two Barn Owl boxes were erected in 2006. Both have been sporadically occupied by Barn Owls since installation, with successful breeding occurring in 2008 and 2009 (see Plate I, centre pages).

The surrounding landscape, which will also be in the hunting range of the Barn Owls, is also very suitable for the species. There are further rough grasslands on an adjacent restored quarry, further floodplain grasslands, arable fields and scrub and grassland mosaics on neglected fields as well as surrounding further small wetlands. There are many industrial and post-industrial habitats in the vicinity such as factories, storage yards, abandoned railway tracks, commercial premises and a sewage works, as well as settlements such as the village of Broomhill and the townships of Wombwell and Darfield.

Method

Pellets were periodically collected from under the nest box locations and dried before being gently teased apart using a stout needle. Analysis followed Yalden & Morris (2009). Skulls and jaw-bones of small mammals were isolated and identified to species with the maximum number of any feature (left and right mandibles and skulls, for example) counted to give a minimum figure of prey numbers for the batch.

Results

The batches of pellets were collected at different times of the year as shown in Table 1. 137 whole pellets were collected, and some disintegrated pellets (debris) from one of the boxes in December 2010.

Table 1. Number and dates of Barn Owl pellets collected at Broomhill Flash, 2009–2011.

Date	Nov 2009	Mar 2010	Apr 2010	Dec 2010	Mar 2011	Apr 2011	May 2011	TOTAL
No. of pellets	22	33	12	25+ debris	11	19	15	137+ debris

The analysis (Table 2) shows an exclusive mammalian diet for the Barn Owls at Broomhill Flash. Ten small mammals were recorded as prey and the diversity is striking; three shrews, three voles, three mice and a rat. The most common prey item was Field Vole, followed by Common Shrew, Wood Mouse and Bank Vole in that order. All other mammals were considerably less frequent than these, though significant numbers of Water Shrew, Harvest Mouse and Brown Rat were taken. Five Pigmy Shrew and single Water Vole and House Mouse made up the rest.

Using a prey weight conversion factor which more accurately reflects the nutritional value and biomass of different prey, the Field Vole remained as the most important prey item, now followed by the Brown Rat, then Common Shrew, Wood Mouse and Bank Vole. The other species still made up a small proportion of the diet, although the Water Vole contribution, as the largest prey species, was considerably increased. Both Brown Rat and the single House Mouse could reflect the close presence of a pig-farm and sewage works to the reserve.

Table 2. Prey items taken by Barn Owl at Broomhill Flash, Yorkshire, 2009-2011.

Prey species		Nov 2009	Mar 2010	Apr 2010	Dec 2010	Mar 2011	Apr 2011	May 2011	Total	% by no.	Prey weight conver -sion factor	% by weight
Water Vole	*Arvicola amphibius*				1				1	0.3	225	3.5
Field Vole	*Microtus agrestis*	33	33	13	24	22	19	16	160	46.9	21	51.7
Bank Vole	*Myodes glareolus*	5	8	1	8	1	2	4	29	8.5	16	7.1
Water Shrew	*Neomys fodiens*		2	5	1		1	1	10	2.9	15	2.3
Common Shrew	*Sorex araneus*	9	11	4	16	2	28	16	86	25.2	16	10.6
Pigmy Shrew	*Sorex minutus*			3	2				5	1.5	4	0.3
Wood Mouse	*Apodemus sylvaticus*	3	5	1	13	6	1	1	30	8.8	18	8.3
House Mouse	*Mus musculus*				1				1	0.3	12	0.2
Harvest Mouse	*Micromys minutus*	1	2		1	3	1	1	9	2.6	5	0.7
Brown Rat	*Rattus norvegicus*			2	7			1	10	2.9	100	15.3
TOTAL		**51**	**61**	**29**	**74**	**34**	**52**	**40**	**341**	**100**		**100**

As the pellet collection was sporadic, no clear seasonal patterns could be concluded, although the highest number of Water Shrews taken in the April batches may reflect a period when this animal is more easily visible and active and therefore more easily captured.

Discussion

From the perspective of the conservation of the nature reserve, the presence of two UK Biodiversity Action Plan mammal species, Harvest Mouse and Water Vole, is of particular note. Whilst only a single prey item of the latter was identified and this, being a very large animal, is not a regular Barn Owl capture, it is still found at a number of locations in the lower Dearne Valley and could have been expected. Harvest Mouse is also scarce, although detailed surveys have not been conducted in the area and it may well prove to be more widespread in the post-industrial landscape of the Dearne Valley. Although the Water Shrew is not listed as a BAP species, it is also a scarce resident of the Barnsley District and the number of prey items found in this study may signal a relatively healthy population.

The overall diet of the Barn Owls at Broomhill follows the national trend, with the top four main prey items being exactly the same as in the national owl pellet survey (Love, 2009), although Field Vole, Common Shrew and Bank Vole were slightly more frequent at Broomhill and Wood Mouse much less so (15.1% nationally). All the rarer mammals were more frequent at Broomhill except for Pigmy Shrew (8.8% nationally).

Also in South Yorkshire, an analysis of 163 Barn Owl pellets collected at Adwick Water Mill, Adwick-le-Street, Doncaster, in 1973 (Howes & Pearson, 2011) revealed 391 prey items and a similar list of mammalian prey, although in that locality the remains of Rabbit *Oryctolagus cuniculus* were found in one pellet, adding one more mammal to the list. The frequency of prey also differed, with less Field Vole (34.4%), Common Shrew (16.4%) and Bank Vole (0.2%) than at Broomhill, compensated by more Wood Mouse (14.4%), Water Vole (1.8%), House Mouse (3.0%) and Brown Rat (8.7%). By weight, the most important prey item there was Brown Rat at 32.5%. A further variation in the diet of the Doncaster owls was a significant proportion (18.2%) of passerine birds, mostly House Sparrow *Passer domesticus* and Starling *Sturnus vulgaris*.

This study forms a useful baseline for the understanding of the diet of Barn Owls in this part of Yorkshire, as well as valuable confirmation of the presence of scarce small mammals which will continue to benefit from the conservation management of the site.

Acknowledgements

I thank Colin Howes for helpful comments on an earlier draft of this note.

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The Crab and the Deer

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Introduction

The Crab, or Crab-apple *Malus sylvestris,* is an oddity amongst British trees (Rackham 2003). It is distinctly non-gregarious. Our countryside has beechwoods and birchwoods, oakwoods and limewoods, even occasional yew-woods, but not woods of Crab. It often occurs in hedges, at the edges of woods or in glades, usually just a single tree here or there. It was, though, sometimes used ("bruised crabbes") in planting hedgerows and in creating mixed-species plantations, and the place-name of Crabett in Sussex does suggest one wood of Crabs (Rackham *op.cit.*, p. 355).

It is present in woods of all sizes, from small to large, and may, therefore, be relatively more common in terms of trees/ha in small woods (Rackham 2003). Its scattered but widespread occurrence presumably reflects its manner of dispersal. It does not form clones like English Elm *Ulmus procera* or Aspen *Populus tremulans*, nor does it produce the abundance of wind-dispersed seed that sees Scots Pine *Pinus sylvestris* or Silver Birch *Betula pendula* form large populations of seedlings that develop into woods. Some bird-dispersed berries, such as those of Holly *Ilex aquifolium* or Rowan *Sorbus aucuparia*, also form groves of seedlings under appropriate roost sites. The larger fruits of oaks, Beech *Fagus sylvatica* and Hazel *Corylus avellana* are routinely collected, dispersed and buried in caches by squirrels and corvids, among others. This does not apparently happen to Crab-apples.

So how does Crab disperse? It usually produces an abundance of small, yellow-green apples in September which fall in October and lie on the ground, but attract little attention from birds. Snow & Snow (1988) point out that Crab-apples are too large to be taken by the usual bird-dispersers such as thrushes or warblers. In their watches, they very occasionally saw Carrion Crows *Corvus corone* carry off apples and other birds, mostly Blackbirds *Turdus merula,* eating the flesh at least of fallen apples later in the winter, mostly in February. The fact that apples usually fall, plus their size, led the Snows to suggest that mammals, not birds, are the usual agents of dispersal. Small mammals may eat both apple flesh and seeds but are also unlikely agents of dispersal. However, Snow & Snow (*op.cit.*) noted that the apples do disappear from under the trees, and tracks suggested that deer - probably Muntjac *Muntiacus reevesi* in their area - were usually responsible. So, could deer be agents of dispersal? They would have to eat the apples whole, not damage the pips, and pass them in their droppings at a suitable distance from the parent tree.

Peak District Observations

The Peak District is not well-wooded, and even less of the woodland might be 'ancient deciduous woodland'. Despite this, Crab is present in its usual scattered manner. In the Ashop-Alport valleys ('Snake Pass') I know of 10 trees in about 9km of river valley. This is not woodland and the trees are in hedgerows or in the scatter of trees on the banks at the edges of the flood plains. The Dane Valley-Shell Brook area along the Cheshire-Staffordshire border has rather more woodland, and more Crabs. There are even, unusually, two loose groups of 3-4 trees. I am not usually in this area in May and so do not see the trees in flower, but a population of Red Deer *Cervus elaphus* has established itself in this area since the 1940s (Yalden 2001). The best time to assess their numbers and distribution

is during the rut in October, at which time a carpet of crab-apples draws attention to the trees. However, the apples themselves usually disappear quickly and the concentrated trampling of deer hooves under the Crabs makes it quite clear that Red Deer are usually responsible for eating them. (There are no other deer in this area and only sheep might be competitors for the crab-apples. Mostly, they are fenced out of the woodlands). These observations prompted this study by raising the following questions: Do pips pass through deer successfully? Do they germinate better for passing through a deer's gut and being deposited in a small pile of manure? Could the erratic feeding behaviour of these deer help to explain the oddities of the Crab's distribution?

Germination Experiments

Unusually, one group of Crabs had abundant apples underneath each tree in October 2011, with no sign that deer had visited them. When the trees were revisited on 21 December, however, most of the apples had gone; deer trampling and trails to or from the trees suggesting that they had been recent visitors. A sample of apples was collected from beneath 2 trees, as were 6 samples of deer dung, at 15-57m from the trees. The apples ranged in weight from 3.7-11.5g (median 7.5g, mean 7.0g, S.D. 2.2, n=17) and were 16-28mm in diameter (median 25mm, mean 23.5mm, S.D. 3.4, n=17), matching the sizes suggested by Snow & Snow (*op.cit.*). The samples of deer dung ranged from 43g to 82g (wet weight, necessarily; total 348.5g) and hand-sampling yielded 5 intact apple-pips. A second collection of 6 dung samples was made on 30 December to increase the sample size; these ranged from 43g to 139g (total 583g) and yielded another 9 pips.

These apparently intact pips were planted on the surface of standard growing compost along with some of the dung from which they had been extracted (Table 1). Two pots received 4 and 1 pips respectively on 21 December 2011 and the extra 9 pips were added to the pot with the single pip on 30 December 2011. In addition, two pots were seeded with quartered apples, crudely broken to release at least some of the seeds. Other seeds were manually extracted from 3 apples and 12 intact seeds planted on compost in another pot, while a sixth pot had 4 intact apples placed on the potting compost. These apples typically each contained 6 seeds. The pots were set on a well-lit window-ledge in an unheated shed and watered irregularly with tap-water.

Table 1. Progress of germination trials.

Pot	30 Dec 11	03 Mar 12	28 Mar 12	17 Apr 12	18 May 12
1 ex-deer	4 seeds	2 seedlings	2 seedlings	2 seedlings	2 seedlings
2 ex-deer	10 seeds	3 seedlings	3 seedlings	4 seedlings	4 seedlings
3 broken apple	6 seeds	0 germinating	3 seedlings	4 seedlings	4 seedlings
4 broken apple	10 seeds	1 seedling	1 seedling	3 seedlings	4 seedlings
5 seeds	12 seeds	12 seedlings	11 seedlings	11 seedlings	11 seedlings
6 intact apples	4 apples	0 germinating	0 germinating	1 crumbled	1 seedling

On 16 March, 18 seedlings were just germinating, with the cotyledons opening: these included all of those removed manually from the apples as well as a few others. By 28 March, one seedling in pot 5 had died but another 3 had germinated in pot 3; the older seedlings were showing their first pair of true leaves. By 17 April, another 4 seedlings were just appearing (one each in pots 2 and 3, 2 in pot 4) and the older seedlings had 2 pairs of true leaves. The intact apples in pot 6 had rotted and shrivelled completely and it seemed the seeds would be dead. However, one apple was crumbled to investigate this, and the seeds appeared viable. Indeed, one had just germinated by 27 May, by which time the older

seedlings in other pots had 6-8 leaves. Those from pot 5 had been planted on into separate pots on 6 May, and 4 were planted out in the field on 27 May.

The only other seeds found in the deer droppings were a number of haws. Some had been cracked, but 9 apparently intact haws were potted out, along with the apple pips. None of these had germinated by 27 May but Rackham (*op.cit.*) suggests that they take 2 years to germinate.

Conclusions

Clearly, some Crab seeds do successfully pass through deer and germinate, but the success rate is low - 6/14 seeds is only 43% successful germination. By contrast, all the seeds extracted manually from the apples germinated and, although one seedling died at the cotyledon stage, the rest grew well. So did some of those from the broken apples (8/16, or 50%). The germination of one seed from an intact but rotten apple after it had been crumbled is, perhaps, instructive. It appears that the seeds need to be released from the apple flesh into the light to germinate successfully whilst severe frosts in March might have played a part in stimulating germination. While the manure from the deer droppings might have helped the seedlings from the deer dung, it was clearly not essential, though the biggest seedlings (at the 8- and 9-leaf stage) on 27 May were those in pots 1 and 2. Neither abrasion of the seed coats nor the action of the digestive juices appears to enhance germination, and they are certainly not essential. It is, of course, possible that further germination would take place the following spring to produce a second generation of seedlings, so that overall success might be higher than these results imply.

Discussion

Clearly, Crabs can be dispersed by deer. When we had domestic goats, they too were fond of eating crab-apples, and it is likely that domestic ungulates could also be agents of dispersal. Deer, as occupants of open woodland, are well placed to disperse seeds some distance from the parent tree but, if no more than half survive passage through the animal, it is obvious that the density of seedlings would be low and moreover, well scattered. Although these seeds were collected from deer droppings deposited as the deer left the Crab trees, they must have been eaten at least a day earlier and mixed with large quantities of herbage in the meantime, so diluting the possible density of seedlings. Indeed, of the 12 clumps of droppings examined, only 5 contained any pips. Since birds do eat apple flesh from apples below the trees, they could potentially release seeds nearby, but would be poor at dispersing them more than a few metres. Likewise, intact apples might roll a few metres, rot and release the seeds, but this would not create the typical pattern of scattered individual tress, perhaps 300 or more metres apart. Oliver (2009) observed that Badgers *Meles meles* seemed to eat the crab-apples in Wiltshire and might well disperse them. They typically deposit much of their dung in boundary latrines around the periphery of their territories, and this would be a good way of dispersing seed 200 or 300m. However, it is not certain whether their strong jaws and different chewing mechanism would allow viable seed to pass. Foxes *Vulpes vulpes*, like Badgers, are known to eat much fruit in autumn and are also potential agents of dispersal. Herrera (1989) reported that carnivore scats in Spain (a mixture of Fox, Badger and Beech Marten *Martes foina*) sometimes contained seeds of *Malus sylvestris* (though only 6 seeds in among 215,000 seeds collected from 1500 scats), but it is not known how well these might germinate. It would need more germination experiments similar to those reported here to examine this potential further.

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Further recruitment of parasitoids by the Horse-chestnut Leaf-miner

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In *The Naturalist* 1079 I documented my surprise at *Minotetrastichus frontalis* (Nees) not featuring amongst the twenty-one chalcids collected from the Horse-chestnut Leaf-miner *Cameraria ohridella* in my garden during the summer of 2011.

Throughout the month of November I swept Horse-chestnut *Aesculus hippocastanum* leaves from my garden and noticed that many of these contained the shiny white discs that betray the presence of over-wintering leaf-miner cocoons. A sample of leaves, hosting approximately 150 mines, was kept outside in an open wooden box until April when it was brought into an unheated shed. The leaves were transferred, at this point, into clear plastic bags to facilitate the observation of emerging insects.

Thirteen chalcids resulted from parasitized leaf-mines and six of these were *Minotetrastichus frontalis* (see Plate II, centre pages). The remainder of the batch comprised two *Sympiesis sericeicornis* (Nees) and five *Pnigalio* species (Schrank). These ratios (6:5:2) are much more in line with what would be expected from studies elsewhere in Europe.

It will be interesting to see how this parasitoid complex continues to evolve over the next few years.

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Encounters with Chalcidoidea during 2012

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In January 2012 I read an article by Keith Smith in *Argus* (Yorkshire Branch of Butterfly Conservation's publication) in which he described a colony of White Satin Moth *Leucoma salicis* located in Queens Gardens, Hull (VC61). Some of the accompanying photographs clearly showed parasitoid cocoons in the larval web and I was keen to identify these. Keith sent me a number of cocoons from which adults of *Cotesia melanoscela* (Hymenoptera: Braconidae) soon emerged. Samples were sent to Dr Mark Shaw so that he can participate in an upcoming study of molecular phylogeny. Dr Shaw warned me that not everything that hatched from the cocoons would be *Cotesia melanoscela* because they themselves are heavily hyperparasitised. He described how the insects that emerged from cocoons by cutting around the cap would be *Cotesia melanoscela* but those that emerged from a chewed hole (usually subapical) would be hyperparasitoids.

Sure enough, in early March 2012, a chalcid appeared in the container and was identified by Dr. Dick Askew as a male *Pteromalus semotus*. This is a species which turns up quite frequently as a hyperparasitoid in a range of Lepidoptera and, very probably, this specimen had attacked the *Cotesia melanoscela*. A different chalcid emerged from the parasitized web in the first week of April. This time Dr Askew identified the specimen as a male *Eurytoma verticillata*, another known hyperparasitoid of Lepidoptera via Ichneumonoidea.

In early May I was sorting through the fourteen chalcids that had emerged from over-wintered mines of Horse-chestnut Leaf-miner *Cameraria ohridella* when I came across one that could not be identified from the usual key. Dick Askew solved the mystery with his suggestion that this specimen was *Coccophagus obscurus* (Aphelinidae). *Coccophagus* are parasitoids of scale insects and the association with *Cameraria ohridella* is probably accidental.

Later in May, I found larval mines of the moth *Elachista poae* in Reed Sweet Grass *Glyceria maxima* growing along the canal at Baildon (VC64). I was hoping to rear *Pholetesor viminetorum* for Mark Shaw, who has been looking at the taxonomy of the *Pholetesor* genus (Braconidae: Microgastrinae) which are sometimes known under the name *Apanteles* and parasitise leaf-mining Lepidoptera. It has become clear (Shaw, 2012) that DNA studies will be needed in order to understand species limits in *Pholetesor* and, accordingly, he is starting to build up samples in alcohol.

Although I failed to rear any *Pholetesor viminetorum* further than the cocoon stage, I did discover that one of the micromoth larvae was host to four chalcid larvae, feeding gregariously as endoparasitoids. Two female adults eventually resulted and were sent to Dick Askew for identification. These were *Chrysocharis chlorus* (Eulophidae), a rather atypical *Chrysocharis* which has, in the past, been placed in *Neochrysocharis*. Hansson (1985) describes it as "a primary, gregarious endoparasitoid of larvae of *Elachista pomerana* on *Glyceria maxima* in Sweden, the fully developed parasitoid larvae leaving the dead or dying host and pupating in the mine. The number of parasitoids per mine ranges from 17 to 22". Apart from the number in a brood, Hansson's observations seem to agree with mine. *Chrysocharis chlorus* (see Plate III, centre pages) is recorded from Britain, Czech Republic and Mongolia. There is material in the Natural History Museum from France, while in Britain

Dr Askew has previously seen specimens from Warwickshire (ex *Elachista poae* on *Glyceria maxima*), Berkshire, Buckinghamshire, Oxfordshire, Northamptonshire, Surrey, Lancashire and West Yorkshire (Keighley & Askham Bog).

On 14 July 2012 I captured a female chalcid as it investigated a mine of the Horse-chestnut Leaf-miner on my garden Horse Chestnut. This keyed out to a *Chrysocharis* species and Dick Askew was able to identify it as *Chrysocharis gemma* (Walker), its wing having a characteristic dark central spot. *Chrysocharis gemma* is polyphagous on fly and moth leaf-miners but apparently prefers hosts in 'hard' leaves, eg. *Phytomyza ilicis* in Holly *Ilex aquifolium* (R R Askew, 2012, pers comm.). This is the fourth species of chalcid that I have recorded attacking the Horse-chestnut Leaf-miner .

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Broad-leaved Helleborine *Epipactis helleborine* at Doncaster's Lakeside Park

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During a visit to Doncaster's Lakeside Park (SE5901) on 4 July 2012 in the company of members of Doncaster Lakeside Wildlife Action Group, specimens of an unidentified helleborine *Epipactis* sp. were encountered, mainly on the northerly ornamental island. Although the flower spikes were well formed, none of the flower buds was sufficiently open to allow definitive identification.

On 10 July Lakeside was again visited and forty-one flowering spikes in groups of one to six were noticed growing around the bases of eight Silver Birch trees *Betula pendula* and five White Willows *Salix alba* planted around the lake's north-west shore. All were growing in the circular areas largely denuded of vegetation around the tree bases, kept clear of annual weeds by early-season herbicide spraying by local authority gardeners. Although the waterside grasses are heavily grazed by waterfowl and, to a lesser extent, by Rabbits *Oryctolagus cuniculus*, the helleborines seem to be avoided by both. Interestingly, none grew at the bases of the avenues and lines of Grey Alders *Alnus incana*, along the northern and western waterside boulevards. Geoffrey Wilmore (pers. comm.) suggests that it may be that exotic alders are introduced in planting schemes to promote nitrogen input into the soil, and the resulting soil nitrogen content and nutrient enrichment in the immediate vicinity of the planted alders may have been too great for the orchids to tolerate. There may also have been an absence of appropriate fungal associates in this nitrogenous area (see below).

Further surveys were undertaken on the evenings of 21, 24, 27 and 29 July to assess the size of the population on the lake's northerly island. On 27 September a further four groups, totalling thirteen flowering spikes, were located adjacent to four White Willows on the southerly island. In total 287 flowering spikes were counted on the Islands during visits in 2012, by lake-side trees and in surrounding ornamental shrubberies.

Most were growing in the dappled shade associated with the nursery-grown Silver Birch and White Willows, though some were growing up to 380cm away from the nearest trees in sunny glades vegetated by a hay meadow grassland plant community (see Figure 1). The helleborines varied considerably in size: plants measured in late July ranged from 10 to 100cm with a mean height of 50.6cm (see Figure 2). By late July a number of the florets had opened sufficiently to confirm (using Harrap & Harrap 2009) the identification as Broad-leaved Helleborine *Epipactis helleborine* (see Plate V, centre pages). The numbers of individual buds and florets on each flowering spike varied vastly, from 0 to 66 with a mean of 23. However, most of the plants with no or fewer than five florets had been weakened or decapitated by aphid attack. Many of the flowering spikes were subject to attack by populations of black sap-sucking aphids that were being farmed in turn by the Small Black Garden Ant *Lasius nigra* which protected them from insect predation and gathered their honeydew.

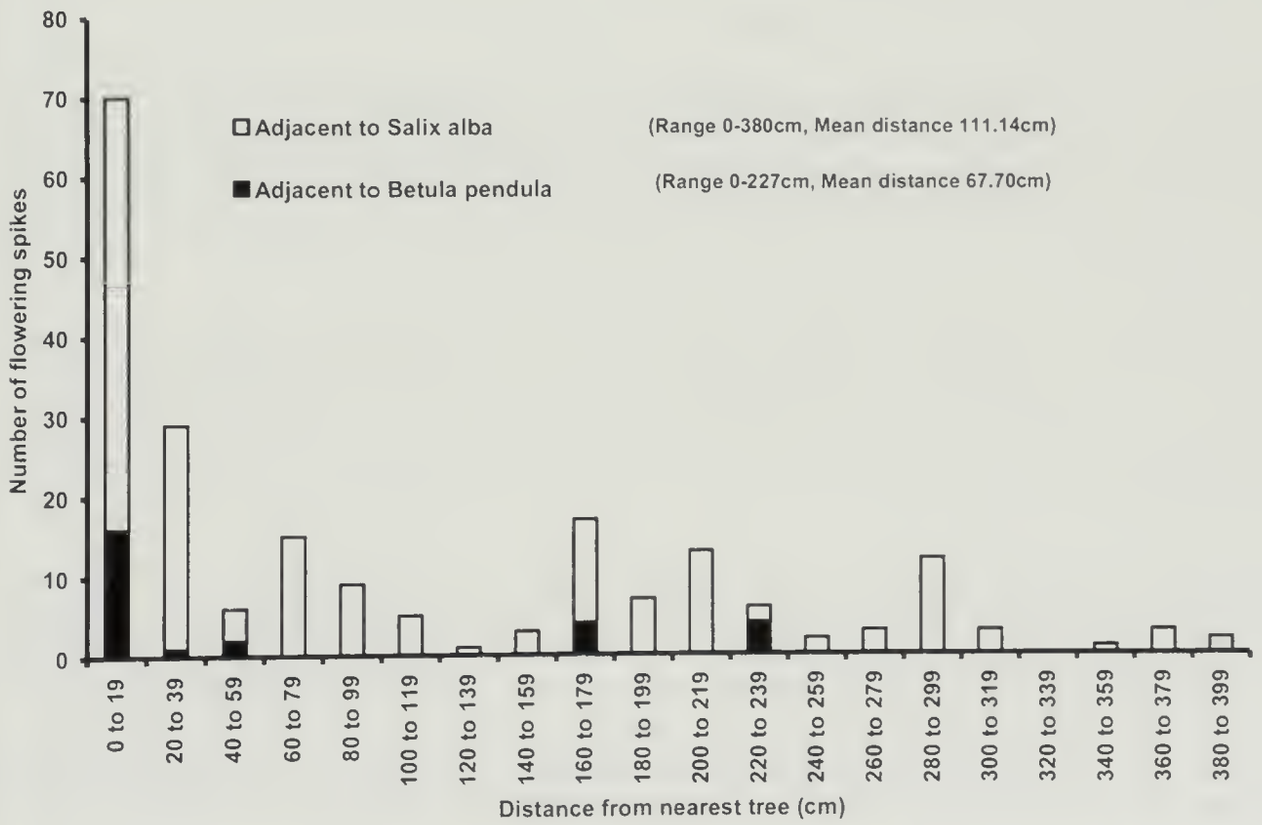

Figure 1: Distances of 194 flower spikes from the bases of the nearest Silver Birch and White Willow trees.

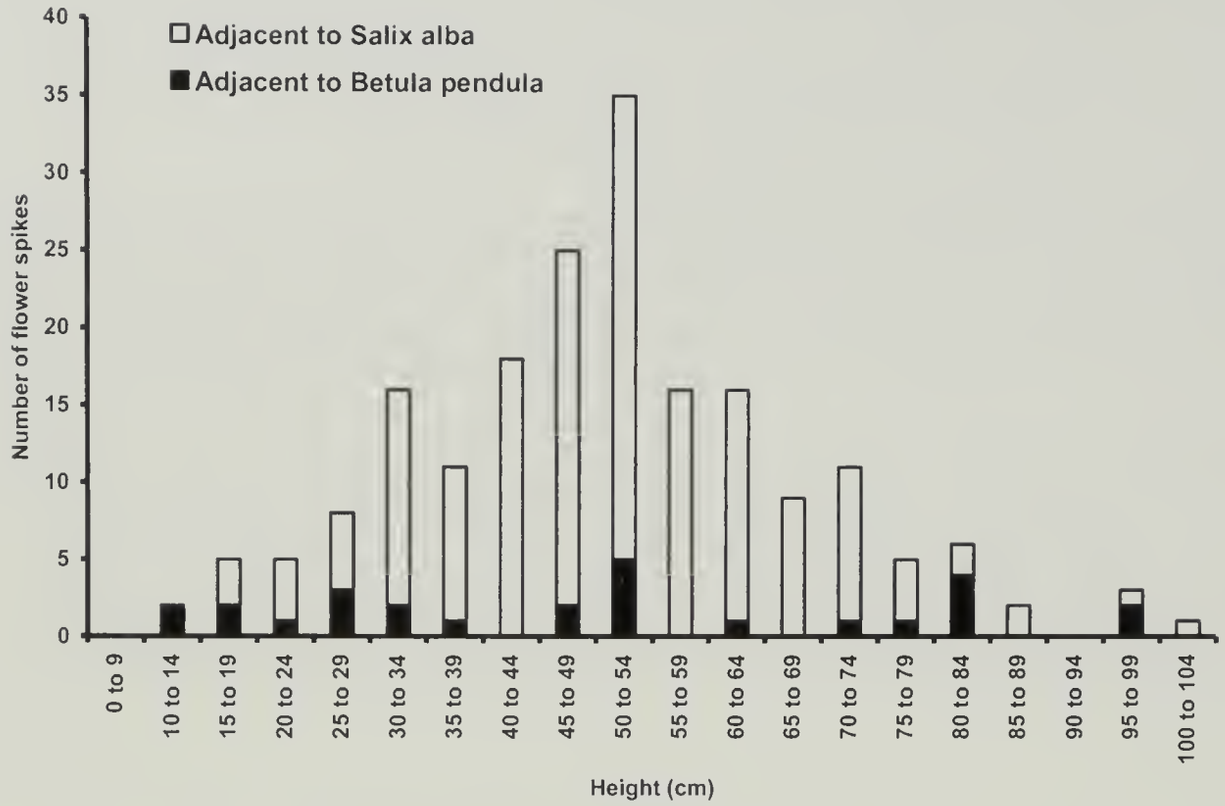

Figure 2: Height range of 194 flowering spikes.

The Broad-leaved Helleborine has a scattered distribution across South Yorkshire in deciduous and mixed woodland on slightly acidic to calcareous soils. It is also found in shaded hedgerows, wayside banks, copses and occasionally in more open grassland or on stream banks. It will also colonise some urban habitats such as overrun gardens (Wilmore *et al.* 2011).

At Lakeside Park, the substrate is slightly acidic sand derived from the underlying Permian Sherwood Sandstone. There are no known historical records of Broad-leaved Helleborine for the Lakeside area (formerly Doncaster aerodrome) and it was not noticed growing here during the surveys undertaken by the Doncaster Naturalists' Society and Doncaster Museum from 1968 to 1993.

The most likely vectors for the plants colonising the Lakeside Park are the nursery-grown, semi-mature Silver Birch and White Willow trees introduced during the park's landscaping phase during the early 1990s. Here, the Helleborines could have been introduced in the soil of the tree root-balls. This would partly explain the close proximity of the orchids to the trees. There are also examples where mats of the desiccated remains of many previous years' flower spikes are clustered around tree bases, further indicating the relationship with imported trees.

The close association with what may be referred to as the two host tree species or at least the fungi within the soil imported with them is possibly a function of the relationship Orchidaceae have with ecto-mycorrhizal fungi (Summerhayes, 1968). A Japanese study showed that *E. helleborine* is mainly associated with several ectomycorrhizal taxa of the Pezizales, such as *Wilcoxina*, *Tuber*, and *Hydnotrya* (Ogura-Tsujita & Yukawa 2008). Isotope studies have shown that helleborines acquire around 60% of their nitrogen and about 14% of their carbon via fungi (Harrap & Harrap 2009).

It would seem that the helleborines are now moving out from their original introduction sites (see Figure 1) into the hay meadow grassland on the northerly island in association with Bird's-foot Trefoil *Lotus corniculatus*, Kidney Vetch *Anthyllis vulneraria*, Lady's Bedstraw *Geum verum*, Red Clover *Trifolium pratense* and Yellow Rattle *Rhinanthus minor*. Here the flowering spikes tend to be taller and the numbers of florets per flower spike are larger (See Table 1). This is at variance with the suggestion in Harrap & Harrap (*op.cit.*) that plants in deep shade tend to be taller than those in sunnier locations.

Table 1: Comparison of height and number of flowers per spike of plants growing in Shade or in Open grassland.

Table 1a: Height of Flower spike

Shade		**Open Grassland**	
Mean	**42.7cm**	Mean	**57.9cm**
Range	10-85cm	Range	15-100cm
Number	96	Number	98

Table 1b: Number of Flowers per spike

Mean	**17.8**	Mean	**27.4**
Range	0-49	Range	0-66
Number	96	Number	98

Groups of Broad-leaved Helleborines have also been found in the shrubbery borders of the lakeside ring road (Lakeside Boulevard) in association with nursery-grown hybrid Common Lime trees *Tilia x europaea* and a shrubby, semi-horizontal form of *Cotoneaster*. It first appeared on the adjacent Potteric Carr Nature Reserve (SE5900) in 2007 (K. Woolley, pers. comm.) and occasional isolated plants which have survived local authority herbicide spraying are present at the bases of birch trees on grassy roadside verges in the nearby West Bessacarr area (SE6001). It would, therefore, appear that the plant is being spread into adjacent urban areas, confirming comments in Wilmore *et al.* (2011) and echoing the trend in Scotland where this orchid is now more common in urban Glasgow than anywhere else in Britain (Allan & Woods, 1993).

Acknowledgements

I would like to thank Chris Mattinson, Carol Benson and Nora Boyle for assistance during the initial discovery of this population. Mark Lynes helped to evaluate the taxonomic status of this colony and commented on national status trends. Special thanks are due to Michael Snow and Nora Boyle of the Doncaster Naturalists' Society for providing a photographic record. I am grateful to Geoffrey Wilmore for reviewing the manuscript and contributing the comment on the exotic Alders.

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Fungi in the Horbury area of Yorkshire 1888 to 2011

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Horbury is a town with a population in 2008 of c.10,000, situated between Wakefield and Dewsbury. Originally a centre of the Yorkshire woollen industry it was, according to local hearsay, a place largely inhabited by the better-off mill workers and owners. The mills were in Ossett though the well-known firm of Readicut - now no more - was latterly the principal remnant of this trade. There was also engineering in the shape of the Bombardier railway carriage works, now also closed. Currently Horbury is an adjunct of Wakefield. Its southerly aspect overlooks the Calder Valley, which may be said to be the geographical start of South Yorkshire. Following the demolition of the former Hartley Bank Colliery (1968-9) the view in this direction is mostly open fields and small woodlands.

Horbury is largely on acid soils overlying Carboniferous rocks and in some places coal residues and shales. Generally speaking, the Wakefield district has not been much favoured botanically in the past. Most of the vegetation in the remaining woodlands comprises successions of regrowth following overuse by man. Fuel gathering, agricultural clearances and coal-mining have all taken their toll and the remaining Lower Calder Valley woodlands are scattered and depleted.

The area of that portion of the Calder Valley within walking distance of the town of Horbury seems to have been little studied by mycologists in the past. There are records of fungi (then considered as plants) in Lees' *Flora* (1888). This includes Huddersfield but rarely strays as far east as Wakefield. The earliest record I have found from the 'Horbury area' is *Byssomerulius corium*' from 1888 by Mr W. West. He seems to have had a good year because this fungus appears three more times under his name in the Fungal Records Database of the British Isles (British Mycological Society) - from Leeds, Halifax and Bolton Abbey. *Serpula lacrymans* is also recorded, by Mr. W. Rushworth. In neither case is there any more information. Further reading of Lees (*op.cit.)* reveals that many fungi were already recorded further west in the valley, which clearly indicates a lack of interest in Horbury, borne out by the next record not appearing until 77 years later in an anonymous report of *Crucibulum laeve* being found in Stocksmoor Common Nature Reserve in October 1965. We have to wait until May 1972 when the indefatigable Mr. W.G. Bramley, accompanied by a young Mr R. Watling, visited the same woodland and collected 22 species. This seems to have been part of the 1972 YNU Spring Foray, described very briefly in *The Naturalist* (Bramley, 1973).

I came to live in Yorkshire in 1969, moving to Horbury in 1990 on retirement from the computer industry. A chance conversation with a friend brought me into contact with Michael Sykes, then President of the Halifax Scientific Society and a keen mycologist, who conducted the first Fungus Foray that I attended. Just about this time the British Mycological Society (BMS) started its Affiliated Fungus Groups. The Mid-Yorkshire Fungus Group (MYFG) held an inaugural field meeting on Otley Chevin, chaired by the late Dr. Robert Cundall, where I incautiously offered myself as a committee member. Further meetings followed and despite the warnings of my wife ("Don't you come back President!!") I became the Group's first Editor and Recorder. Eventually I started to acquire some knowledge to accompany my initial enthusiasm and gradually started to explore the area around my home.

As seems typical with the fungi, they follow the recorder. In the Wakefield area as a whole, the more recent mycological appearances commenced in 1990. Much of the local area was being investigated by the late Fred Remblance, who lived within walking distance of myself and who taught me how to use a microscope, what to look for and where to look. Fred was a close associate of Martin Ellis (now also deceased), author of the monumental *Microfungi on Land Plants*, which is still the 'bible' for British 'microfungologists' (Ellis & Ellis, 1997). I recently discovered some of his early notes from 1990 (now included with mine) and many of the records of the local woodland and lane-side flora are due to his work. His collecting technique was interesting: he had a collection of narrow tubes, perhaps 40, each with a number. When he had filled these with assorted twigs or such, he would go home and set to work on the contents, producing long lists that he would hand over to me for inclusion in the growing MYFG database, contributing 481 species in 1067 records in the years 1994 to 2001 as well as numerous finds in other Yorkshire districts.

In the area described, 762 distinct species of fungi have been recorded in a total of 3542 records. Many have only been recorded once but few can be described as truly rare; the most appropriate epithet for the frequent single records might be "often overlooked". Furthermore, the number of times a fungus has been recorded depends on factors other than its rarity. The preferences of the observer, the chance tracks taken in a woodland, the weather, the date chosen for the visit, the number of observers on a particular occasion – all these have a bearing, and an important one, on the count. Additionally, fungi choose their own time to appear; what is there one year may easily not be present in the next, or even for ten years. Experiments at the University of York (pers. comm.) have revealed that the mycelium of a particular species may remain viable under the substrate for many years without the organism feeling (as it were) the necessity of developing above-ground fruiting bodies. The question also arises – with what other organism(s) are the various terrestrial fungi associated?.

Table 1. Fungal species associated with major trees.

Tree	Fungal Species	No. of Records
Sycamore *Acer pseudoplatanus*	61	134
Birches *Betula* sp.	224	976
Hawthorn *Crataegus monogyna*	47	87
Beech *Fagus sylvatica*	50	77
Ash *Fraxinus excelsior*	21	33
Holly *Ilex aquifolium*	7	12
Oaks *Quercus* sp.	207	647
Willows *Salix* sp.	21	31
Elder *Sambucus nigra*	16	61
Limes *Tilia* sp.	4	11
Elms *Ulmus* sp.	18	49
Angiosperms	252	467
Gymnosperms	11	23

Table 1 shows counts of the numbers of species and records associated with the major trees. This can only be described as a 'good guess'. The disparity between the two figures (fungal species and records) may, to some extent, illustrate the relative paucity of species since it is obvious that the same fungus will have been recorded on several occasions in different years. Many terrestrial fungi, especially in densely populated woodland, cannot be

easily assigned to any particular tree, so the 'Associated Organism' field in the database may well be stated as 'Deciduous tree' or 'Angiosperm'. Notably, few have been associated with conifers, demonstrating the overwhelming prevalence of deciduous woodland in this area. Neglected ground is nearly always first colonised by birches followed by the slower growing oaks and, sometimes, Beech. Few records have been noted with Ash - King Alfred's Cakes *Daldinia concentrica* being an exception - and elms are largely disappearing numerically speaking and their place is being taken by Sycamore, though in some of the managed woodland an attempt has been made to remove Sycamore. Hedges are mostly of planted Hawthorn; few of these have been in existence for many years and latterly the fashion in farming has been to substitute wire fences. Elder trees will often infiltrate a hedge, occasionally achieving considerable size.

Sites included

For recording purposes I have assigned personal names to sites; these names will not necessarily be found on the OS maps. Numbers at the end of each entry show species recorded and total records for the site. Record numbers are taken from the database of the MYFG, now incorporated into those of the BMS and the YNU.

'The Strands' SE289179; 0.3ha (NB this is NOT the area on the O.S. map with this name). A low-lying area, once industrialised, largely on shale residue and sometimes other industrial waste; self-set Silver Birch *Betula pendula* predominates, with many brambles and Bracken *Pteridium aquilinum*. There is a tendency for it to develop into complete birch woodland cover, despite the ravages of local mountain-bike enthusiasts. In general, we find fungi which are typical of this type of habitat, with very little which is unusual. A broad path runs from east to west through the area and at the edges of this we often find numerous Fly Agaric *Amanita muscaria*, Brown Birch Bolete *Leccinum scabrum* and Brown Roll-rim *Paxillus involutus*. The *Collybia* genus is also frequent; in 2011 I found a ring of Clustered Toughshank *C. confluens* completely encircling the base of quite a young birch. Milkcaps (*Lactarius* spp.) almost always accompany juvenile birch; Woolly Milkcap *L. torminosus*, Bearded Milkcap *L. pubescens*, Ugly Milkcap *L. turpis*, Rufous Milkcap *L. rufus* and Coconut Milkcap *L. glyciosmus* are frequent, sometimes in dramatic numbers. Elsewhere, I once counted nearly a thousand *L. rufus* in two square yards of a similar habitat. There is a grassy area by the River Calder which occasionally produces Waxcaps *Hygrocybe* and *Entolomas*, again none of particular rarity; counts of these seem to have diminished in recent years with no obvious cause. 173 species, 571 records.

Balk Lane Plantation SE289173; a small enclosed area planted with birch and pines on part of the site of the former Hartley Bank Colliery. 22 species, including (2005) *Agrocybe rivulosa* (see notes below under Calder Canal) and Girdled Knight *Tricholoma cingulatum*.

Calder Canal & Canal West SE289174-299171; a 3.5km linear stretch along towpath. On either side of the canal are well-separated bushes and trees – Silver Birch, Hawthorn, Elder, an apple and even a Damson *Prunus domestica*. On the south side there is a less trodden path with somewhat taller trees, and willows are more common. Fungi do not abound but here there was an early occurrence of *Agrocybe rivulosa* on a woodchip pile. This fungus was new to Britain in 2004 (in Staffordshire). I found it in the nearby Balk Lane Plantation in 2005 and later, in 2007, along the canal on woodchip adjacent to the boundary of an adjacent field. This fungus is nowadays almost guaranteed to appear whenever a tree gets the chipping treatment, the theory being that the spores are wind-blown, since they have been known to grow on woodchips produced by a brand-new machine never previously used. 63 species, 117 records.

Coxley Bank West SE271169; c.0.17ha strip of deciduous woodland with Sycamore and oak. Passing this clump of trees I was surprised to see large numbers of Bitter Bolete *Tylopilus felleus* (see Plate VI, centre pages) appearing in the grass under the trees. This rather uncommon bolete, first seen in Yorkshire in 1884, can be mistaken for an edible mushroom such as Penny Bun *Boletus edulis* – until it is tasted, being incredibly bitter. On this occasion it was accompanied by Suede Bolete *Boletus subtomentosus*, also not a very edible fungus, although not poisonous. 16 species, 16 records.

Hartley Bank Wood SE295172; An old colliery site (closed 1968) in three sections on a north-facing slope above the Aire & Calder Canal, divided by a disused railway. The east is largely self-set oak woodland, the west is mainly Silver Birch with self-set intrusions of other trees, apparently planted as a restoration project following the demolition of the former colliery. To the South is an area of levelled colliery residue flanked by self-set Silver Birch which is gradually making inroads into the barren area. Many of the oaks are showing signs of age and there is also occasional vandalism by local idiots setting fires. Little of unusual note has been found here, despite the numerous records; under the birch are the usual Fly Agaric and Blusher *A. rubescens*, sometimes in considerable numbers, Leccinums, milkcaps and Russulas with Brown Roll-rim are also frequent. Somewhat less common and easy to overlook on decaying birch debris have been Pipe Club *Macrotyphula fistulosa* and its *contorta* variant (usually on twigs) and I myself have not seen either recently. Opinions vary as to whether these two fungi are really two separate species; I have looked at them and have been unable to discern any difference except macroscopically, so for myself the var. *contorta* is just that – a morphological variant. Another 'nice find', appearing each spring for some years on a decrepit oak tree, was the Chicken of the Woods *Laetiporus sulphureus*, its attachment point gradually descending year by year, eventually disappearing as the tree decayed. It may reappear, merely waiting for one of the other old oaks to reach the required age. The under-flora of herbaceous plants has provided a rich harvest of microfungi, principally in the southern section of colliery waste surrounded by Silver Birch. 310 species, 851 records.

Hartley Bank Fields SE299170; c.0.60ha. Grassland by canal, sometimes grazed (cattle) and occasionally subject to flooding. Rushes *Juncus* sp. flourish in the damper areas. Nothing unusual but perhaps rather unexplored. 7 species, 7 records.

Horbury urban areas SE2818 to 2918-3018 and SE2917 (area incalculable). The urban landscape of private gardens and small public parks, public amenity grass at roadsides, etc., has been described by Richard Mabey as 'the unofficial countryside'. These areas are by their very nature transient, depending upon the activities of gardeners, dog-walkers and footballers. A wide variety of plant life and habitat is hence available for what may be short-term colonisation from pot plants, woodchip mulch, planted exotics and stray escapes, to manicured grass and relatively mature trees. Nobody can tell what might turn up next. Some examples: *Ascocodinaea stereicola* on Hairy Curtain Crust *Stereum hirsutum* on a dead Elder branch in my garden was only the third British record; the Yellow Stainer *Agaricus xanthodermus*, smelling and tasting nastily of phenol, on no fewer than five sites including a friend's rockery, grass along the bypass and a new memorial garden (research on the internet fails to show any specific mycorrhizal attachments of this fungus); Giant Puffball *Calvatia gigantea* dwarfing the plants in the same rockery; *Leucocoprinus cepistipes* persisting for three months with a potted lily; *Doratomyces microsporus* (a sort of 'micro-brush' about 10mm tall) found on dead stems of Pampas Grass *Cortaderia selloana* in the Memorial Garden; Yellowing Knight *Tricholoma scalpturatum* appears annually around the lime trees in the High Street. I have also been asked to advise on the removal of Stinkhorn

Phallus impudicus from a lady's garden, where its appearance was causing immoderate giggles. 138 species, 303 records.

Horbury Wyke SE299171. A small (c.0.1ha) self-set birch woodland by the Calder Canal, opposite Hartley Bank Wood. Few of the trees will be more than 50 years old. Somewhat surprisingly, we have recorded 82 species but, unsurprisingly, these are the 'usual suspects' which appear in this habitat. 82 species, 195 records.

Stocksmoor Common SE276151. A Yorkshire Wildlife Trust Reserve of c.11.7ha, often wet and somewhat vandalised by motor-cycle and horse usage. It is a reserve of two parts. The higher part, occupying over half the area, is largely rough acid grassland with occasional trees. Fairly moist throughout much of the year, it includes one or two marshy sections. The site has been looked at since 1965, the first YNU visit being in 1972. The mix of deciduous trees and herbaceous plants here is rather greater than in the other woodlands but coniferous trees are absent. The late Fred Remblance found this reserve to be an especially happy hunting ground for microfungi, discovering 200 of these but taking less interest in the larger fungi; curiously, for instance, he never recorded Fly Agaric. Many of his finds may be unique to the Yorkshire area or nearly so, but it would perhaps be a mistake to ascribe rarity status to them, due firstly to their obscurity and secondly to the relative paucity of interested observers. 372 species, 727 records.

Stoneycliffe Wood SE272155. A Yorkshire Wildlife Trust Reserve of c.40.5ha along the valley of the Coxley Beck. This is an excellent, though variable, example of Coal Measures woodland. The woods were managed for timber production in the past and some areas are dominated by Sweet Chestnut *Castanea sativa*. Oak and Silver Birch regenerate freely and dense stands of birch can be found in areas that have been accidentally burnt in the past. Holly, Hazel *Corylus avellana* and, in one part, Heather *Calluna vulgaris* form the understorey. In spring there are magnificent displays of Bluebell *Hyacinthoides non-scripta* and Ramsons *Allium ursinum*, with Yellow Archangel *Lamium galeobdolon* in summer. The northerly part, below a disused quarry, is known variously as Perkin Wood or Coxley Bank. To the South is the extensive timber yard of Job Earnshaw Ltd. a firm notable for leasing several private woodlands to the YWT. No fungi were recorded before 1990; rather a shame, because in recent years the wood has deteriorated, to no small extent because of unwelcome and theoretically forbidden cycle traffic and, of course, vandalism.

Notable discoveries are still few, despite frequent visits. The reddish truffle-like 'berries' of New Zealand Truffle *Paurocotylis pila* (see Plate VI, centre pages) have been found twice in approximately the same place. This is one of several Yorkshire sites for this, a surprising 'import' from New Zealand, described there by Hooker (1855). The first UK records were in Baildon in 1990 and 1994, near Sheffield in 1998, here in 2005 and again in 2011. (There is a theory that the spores get carried around on forayer's boots....) Another, more regular, native is the Old Man of the Woods *Strobilomyces strobilaceus*, which has appeared annually in small numbers around the same oak stump since 2006.

In the timber-yard the joints in bamboo furniture have been an unusual host for the widespread Split-gill Fungus *Schizophyllum commune*, more commonly seen on dead birch branches in Scotland and elsewhere; additionally the accumulated and flattened woodchip once displayed a dramatic flush of Stump Puffball *Lycoperdon pyriforme*, so densely packed over several square metres that they were impossible to count. 441 species, 1068 records.

Conclusions

It will be seen from this brief account that the area as a whole is, mycologically speaking, unexceptional. This may be explained by the fact that truly mature trees are quite rare – probably no standing tree is much older than 150 years. The extensive under-surface mycelial network from which may arise a wide diversity of terrestrial fungi takes many years to form, especially under the slower-growing trees such as Beech and its development is easily disturbed by trampling, digging, vehicle traffic, etc., so we have two factors which militate against finding the more unusual species, over-use and the relative youth of the woodlands.

This picture may be misleading. The ephemeral nature of fungi is well-known and attempts to find a rational picture in their distribution are beset with difficulty. A calculation made by dividing the number of distinct species by the number of records attempts to show the fungal diversity of a given area; the greater the resultant number (the diversity index), the more diverse the population. This enables comparisons to be made with sites elsewhere which have, for instance, a greater number of mature trees (Table 2). The validity of this calculation is, however, doubtful. It is not valid for the smaller, less visited, sites and many other variables will also affect the results; number of visits, weather, time of year and so on. Regular visits which record the same species, while adding to the record count, will merely demonstrate the persistence of that species.

For the future then, the only recourse for the amateur is to keep on recording. The temptation is always to be led astray by the enthusiasm for the task and to record everything that one can see but this may not be the way to produce a coherent record. A more systematic approach will be to restrict data to that gleaned from well-defined discrete areas, not the easiest task in a crowded woodland but a more rational arrangement than that which produced the above records. It will still take many years to produce a worthwhile result.

Table 2. Summary of fungal species found in the Horbury area

Site	Fungal records	Fungal Species	Tree records	Tree species	Diversity index *	Years visited	Area (ha)
Hartley Bank	851	310	669	213	0.32	16	2.0
Horbury Village	303	138	239	101	0.42	15	n/a
Horbury Wyke	195	82	177	70	0.39	15	0.5
Stocksmoor Common	401	247	203	122	0.6	6	11.7
Stoneycliffe Wood	1068	440	797	278	0.34	18	40.5
The Strands	502	153	430	119	0.28	16	3.0
Overall count *(includes smaller sites)*	**3542**	**775**	**2755**	**467**	**0.17**	**19**	**n/a**

**Small 'microfungi' on herbaceous plants have been omitted from the diversity index calculation.*

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Bretheren in the temple of science - natural history across the class divide, Huddersfield, c1848-1865

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Introduction

Despite the prominence of known Yorkshire naturalists such as Charles Waterton and the Rev F O Morris, the study of natural history was never the exclusive preserve of clergymen or gentlemen and, by the second half of the 19th Century, increasing interest in the subject was marked by the proliferation of local societies in the industrial towns and villages of the West Riding. The pursuit of natural history accorded well with the rising ethos of self education and improvement, evident in the growth of Mechanics' Institutes. It likewise provided an intellectual outlet for working men detached from the ideologies which had dominated many working class communities during the political and social conflicts of the turbulent 1830s and 1840s. Indeed, natural history provided a forum for all classes of society to meet in a fraternal atmosphere, where a person's merits were judged by the size of his herbarium or insect cabinet rather than social status. The societies brought into contact the autodidact handloom weaver, mill worker, artisan and small shopkeeper together with the educated professional clergyman, teacher and doctor, the wealthy merchant or manufacturer and even the occasional aristocrat. No doubt some degree of deference and observance of social protocols remained, but the picture that emerges is one of a degree of social and intellectual interaction across the class divide which is unparalleled, even at a time when local paternalism meant that events at church and chapel, at the Mechanics' Institute or the annual mill treat, made direct social contact between people of otherwise disparate social backgrounds far more common than it is today.

The development of the Huddersfield Naturalists' Society (HNS) provides not merely an example of this process but in many ways it pioneered and promoted it. The HNS, although initiated by working men, flourished in little over a decade because of increased *middle class* support. It also provided the impetus for a county-wide organisation, the West Riding Consolidated Naturalists Society (WRCNS), which evolved into the still extant Yorkshire Naturalists' Union (YNU). Indeed, in 1904 the President of the YNU emphasised the importance of Huddersfield: 'The great stronghold of naturalists in those early days was the south-western corner of the West Riding with Huddersfield as its centre and radiating point...' (Roebuck, 1913).

This paper looks at the early years of the HNS, the men who founded it, their interests and activities and the intellectual and social relations which were established across class boundaries.

Early history

The national background to the origin of natural history societies has been discussed in the seminal work *The Naturalist in Britain* (Allen, 1976) but Huddersfield receives no mention. Fortunately, this has been redressed to some extent by Griffith's (2011) study of the Huddersfield Philosophical Society, which included amongst its aims the creation of a museum housing natural history specimens. He also draws attention to a short-lived

Huddersfield and Halifax Naturalists' Society, which existed in the late 1830s. However, there appears to be no direct continuity between these bodies and the birth of the HNS.

HNS long retained its reputation for being created by working men. This was alluded to by the then President, G T Porritt, in his Presidential Address to the society in 1898: 'Will it not always be a credit to working men in Yorkshire and Lancashire that they had tastes which led them to band themselves together in societies in so many of the towns and even villages long before the better and upper classes thought of doing such a thing and have had vitality enough to hold together over and over again, while more pretentious societies organised by men of better education and social position have been abandoned through sheer lack of interest a few years later. The Yorkshire Naturalists' Union met in Huddersfield a century after the reputed date of the HNS foundation, when Porritt's comments were recalled in a report (Anon, 1947) which refers to the HNS, founded in the house of Richard Brook on 21 July 1850, as the oldest provincial Naturalist Society in the country. See also the report on the HNS 1873 Exhibition opened by Lord Dartmouth at Gymnasium Hall; the society 'dates its existence from the year 1847' (Anon, 1873).

Although HNS claimed to be the first of its kind in Yorkshire and one of the earliest in the country, there was some confusion about whether it should be dated from the birth of the organisation or the conception of the idea. The HNS reports routinely bore the title 'Founded in 1847' but, while preparing for its 50th Jubilee in 1897, G T Porritt discovered the original minute book, recording the first meeting at the house of Richard Brook on 21 July 1850. Richard Brook himself stated that 'We have met together for about ten years' at an HNS 'anniversary' meeting on 26 December 1856 (Anon, 1857a).

Some clarification is to be found in a 1968 reproduction of that first minute book (apparently now lost). Richard Brook and John Dodson of Paddock, 'the originators' of the society, met the botanist Jethro Tinker of Stalybridge in 1847. The Huddersfield society grew from their discussion at the moorland inn of Bill's O' Jacks on the Holmfirth to Greenfield road in August 1848. The initial meetings were at Brook's house and afterwards every two months in a 'schoolroom', the main activities being the recording and naming of plants (Anon, 1968).

Botany had long been a favourite study of working men, partly because of its utilitarian value to the herbalist (Secord, 1994), but other branches of natural history, especially entomology, had also grown in popularity. Elizabeth Gaskell paints a classic description of the handloom weaver scientist in the opening paragraph of Chapter 5 of her novel *Mary Barton*, whilst the former handloom weaver Samuel Bamford (1844) paid tribute to the number of working men of South Lancashire who had achieved expertise in botany and other fields of science (Percy, 1991). Although from the adjacent part of Cheshire rather than Lancashire, Jethro Tinker was one such self-educated former handloom weaver turned power-loom weaver who had built up a reputation for his vast knowledge, not only of botany but also of insects and shells and the Linnaean system of classification. Born in 1788, he was around 59 when he put his knowledge at the service of the Huddersfield naturalists (Hill, undated).

The founding of Huddersfield Naturalists' Society

It was to be another two years before the informal meetings in Richard Brook's house were transformed into a structured society. A notice was inserted in the *Huddersfield Chronicle* announcing a meeting on Monday 29 July 1850 in a room over the auction mart on Ramsden Street to establish an HNS. Although Jethro Tinker was unable to attend and sent his apologies, his inspiration is evident in the declaration of the 'promoters of this society to follow the organisation and plan of the Lancashire Society whose practical operations extend

into our own county'. The aims were to give members the opportunity to compare and exchange specimens, 'cultivate a taste for the practical study of those vast and varied fields of nature...' and, somewhat more grandly, 'draw the mind forth to contemplation of the design and structure of the universe, thus elevating and refining the tastes of those who come under its influence'. Entomology, botany and geology were identified as the three main areas of study. Richard Brook was elected President, along with two Vice-presidents, a Secretary and an eight-man committee drawn from several villages and hamlets around Huddersfield, as well as someone from Dewsbury. There were about twenty-four members present. By the time of the second meeting the following month it was reported that 'this society promises to have a considerable accession of members from the surrounding district'. This meeting, held in Dearden's schoolrooms on Albion Street, set the basic format for the future. First came the almost ritual naming, description and classification of plant specimens, followed by a more theoretical lecture on some aspect of natural history illustrated by drawings and specimens, concluding with a discussion. On this occasion Richard Brook showed his botanical expertise while the Vice-president, John Hanson, spoke on geology with the aid of a diagram of Lyell's scheme of strata formation, samples of minerals and a trilobite fossil. The HNS was initially called the Huddersfield Naturalist Society but in the first newspaper report of the meeting is referred to as the Huddersfield Naturalists' Society, the terms often being used interchangeably. The officers and committee were: R Brook, President; Laycock and J Hanson, Vice-Presidents; Jos Swift, Secretary; J S Webb of Newhouse, W Priestly of Dewsbury, Thornton of Huddersfield, G Liversedge of Castle Hill, R Royston of Lindley, J W Hanson of Marsh, J Buckley of Almondbury and E Carter of Paddock, Committee (Anon, 1850a; 1850b; 1850c). Around this time Brook published his *An Introduction to the Science of Botany, according to the arrangement of Linnaeus, with a Defence of that Arrangement.*

The initial optimism about acquiring new members was not to be realised. According to the secretary's 1864 report, membership fell to a dozen soon after the initial meetings. At the 1862 HNS Exhibition the President, C P Hobkirk, alluded to 'about 20 members' at the inaugural meeting (Anon, 1862). In 1864 the Secretary's report refers to 24 (Anon, 1864). This may account for the paucity of references in the local press and the comments in the *Examiner* report of the HNS 'third anniversary meeting' on 26 December 1852 in the Prince Albert, Cross Church St.: 'The society, which is comparatively unknown, is composed wholly of working men. In the several villages in the vicinity, a number of young men had occupied their leisure time as collectors of objects relating to natural science. Some had got up very extensive cabinets of the Lepidoptera class of insects, others had directed their attention to ornithological pursuits, and were in possession of many beautiful and rare specimens, together with a great variety of eggs from those of the large ostrich to the tiny wren: others again had developed their attention to botany'. In the latter field, members' activities were not just confined to collecting but to the detailed scientific recording of plants: 'A book was shown at the meeting, in a state fit for publication, containing the history and description, with the generic and specific names, place of growth, time of flowering and other particulars of nearly five hundred native British plants, growing within a radius of six miles of Huddersfield'.

The scientific and intellectual basis of the society was emphasised by Brook who, describing the 'usefulness of botany', urged the importance of the 'reasoning faculties' in its pursuit, since 'Nature does not give up her secrets but to the importunate.' This was followed by a toast to Linnaeus and an account of his life by John Dodson, a 22 year-old cloth finisher and co-founder of the society (Anon, 1853).

Brook reported to the 20 members present at the anniversary dinner in the same venue four years later that they had now entered into their book about 600 wild plants growing within six miles of the town. In 1862 the society still had a range of 6 miles for collecting and recording specimens (Anon, 1862). It later extended to the Pennine moors and as far west as Bretton Hall. The task of recording was almost exhausted, since 'It is rare indeed for any of us to meet with a plant we have not seen before...' He proposed that their research in the coming year should include other branches, particularly entomology. Members agreed that, following the established practice with plants, specimens of insects should be brought to meetings and named and described.

However, the study of nature was often regarded not simply as an intellectual and scientific pursuit; it had a wider spiritual and aesthetic dimension. For some it was almost a fulfilment of a religious duty, redemptive even, since they were engaged, as Brook said in 1856, in the 'study of the works of God', which would bring moral improvement through 'the sweat of their brow'. It was literally a labour of love, 'the great Author of nature has decreed that we shall neither enjoy the fruits of the earth, nor become acquainted with any of the advantages with which we are surrounded without much labour...'. while one-time atheist Hanson referred to 'God's marvellous museum' and how 'Lovers of wisdom had laboriously explored the works of nature and nature's God...'.

Both science and religion still left scope for imagination however and reverence for nature found legitimate expression in poetic reverie. Brook embraced the Romantic apprehension that 'The student of natural history is never alone...', surrounded by other creatures and free 'To sit on rocks to muse o'er flood or fell/ To slowly trace the forest's stately scene...', while Hanson urged the naturalist to leave the counting house 'for the green fields , the sylvan retreats and the flowery solitudes...'.

Richard Jessop of Lascelles Hall, acknowledged as one of the 'veteran artisan botanists who founded the HNS (Hobkirk, 1892), quoted from the poets 'in a manner which', remarked the *Examiner* slightly patronisingly, 'with some perseverance, augurs well for the future worth of this young man.' On the one hand he could speak ably on the chemistry of plants and the production of starch and on the other of 'the delight he found in rambling by hedgerows and in woods'. He was active in the HNS until at least 1882 (Anon, 1882). From the 1861 and 1881 censuses he appears as 'manufacturing chemist', which would explain his interest in plant chemistry. Another member, Dan Robinson, 'related his progressive steps in botany and entomology', revealing his initial motivation: 'When a boy, he was fond of catching butterflies as an amusement, but on becoming a worker he happened to be with a man who proved to be a collector of natural specimens and seeing his large boxes took them to be large books or folio Bibles. At last he requested a peep into one and was astonished at the insect-treasures there enclosed. He afterwards joined a Mechanics' Institute and was greatly delighted with the information he there obtained, especially in reference to the transformations of insects. He then related his own observations as to how the caterpillar throws off one of its coverings, having marked the process at several intervals in twenty four hours' (Anon, 1857).

'Delight', 'pleasure', 'fondness', 'love' are all expressions that frequently recur when HNS members describe their fascination for natural history in that period when such terms comfortably coexisted with scientific observation and discourse. Even the meetings were governed by the cycle of nature, taking place at seven in the evening, 'each Wednesday on or before the full moon of each month'. It is not recorded whether, like Erasmus Darwin's earlier and more illustrious society which met on Sundays around the full moon, they were

dubbed 'Lunatics'! The Society relocated to 'more commodious' premises at the Greyhound Inn on Manchester Road when Isaac Hammond, landlord of the Albert, moved there.

Working men naturalists

Who then made up the early membership of the Society? There are no membership lists from this time, so biographical details have to be gleaned from reports in newspapers and journals. There are scattered references to the early days of the HNS and its members in the various writings of Seth Lister Mosley (1848-1929), who emerged as the HNS's best known member due to his prolific output of illustrations, pamphlets, newspaper columns and occasional books, as well as his long struggle to establish a museum for Huddersfield (Davies, 1992). Although considering themselves working men, Richard Brook and John Hanson were small tradesmen, formerly active in the working-class political movements of the 1830s and 40s. Hanson, a former handloom weaver, aged around 60 when the HNS was established, had been a leading Owenite Socialist, one of the founders of the Hall of Science and a prolific lecturer and pamphleteer. He appears as 'shopkeeper' on the 1839 deed for the Hall of Science but I have not been able to establish what his occupation was c.1850 (Anon, 1842; Brooke, 1993). In 1842 he had delivered a course of 12 lectures on geology at the Hall of Science and this appears to have been his main interest. Hopefully his scientific style was clearer than his political pamphlets, which were often convoluted and obscure. The title of one of his 1837 pamphlets gives a taste of his style: *View extraordinary of Sir John's Huddersfield menagerie: of political houhynims, ourang outangs, kangaroos, lizards, camelions, crocadiles, locusts, and hyænas, with a variety of other sectarian oddities of dissent, cantwells, mawworms, boobies, humbugs, and hypocrites, in the Broughamic order of democracy.* By the 1850s Hanson had abandoned his earlier atheism. Disillusionment with the labour movement, as a result of the internal bickering and the defeats of the 1840s, had led many workers to divert their energies and interests away from politics into education and 'self improvement'. Hanson left the HNS and the Huddersfield area in the late 1850s, only to return in impoverished circumstances in old age. His obituary described him as 'a great writer to the newspapers [he] had embraced all shades of politics from communism up to conservatism.... He became a sceptic and fell into the black abyss of atheism and ultimately, by God's grace, became a true believer' (Anon, 1877). The Socialist John Hanson is not to be confused with the Rev. John Hanson who, ironically, was Baptist minister at the Chapel at Bath Buildings, which had formerly been the Hall of Science.

Richard Brook, however, continued radical activity even as he was establishing the HNS. Aged 49 in 1851, he had previously been a tailor, cotton spinner and shopkeeper before becoming a printer and bookseller in 1843 with premises on Buxton Road. His political leanings are evident from the name 'Junius' he gave to his son, after the anonymous 18th century pamphleteer who lambasted state corruption. In 1848 he was an active Chartist, chairing at least one public meeting and challenging the Liberal candidate at the hustings on the disproportionate taxation paid by the poor. A question about the tithes paid by Catholics drew the retort from the candidate that he presumed that Brook was also a Catholic, which drew cries from the crowd of 'He is, he is' (Anon, 1848a, 1848b). Brook united his interests in botany and politics with an enthusiasm for herbalism, advertising 'Dr Torrens pills' in his publications, although some suspected that he was, in fact, Dr Torrens. The 1850 version of *'Old Moore's Almanac'* included an advert for Dr Torrens as well as some of Brook's own 'sentiments' against tithes and rents, demanding; 'What greater right has a lord, duke, or squire to call the land his own property, than he has to call the sunshine and air his own property.' It also carried the rallying cry: 'The time is now coming on – nay it has begun indeed – when that important body, the working classes, will begin to enjoy the fruits of their labour without having to submit to such enormous plunder from those who do not work. The

idlers, oppressors and blood-suckers, are now falling out among themselves...'. Two 'little books' called "Politics for Workers", one penny each, 'which may be had of the person who sells this almanac', were also advertised.

From 1847 he also published in parts *Culpepper's Herbal Improved: A New Family Herbal, ...or a history and description of all the British and Foreign Plants, which are useful to man, either as food, medicine, farming purposes, or in the arts and manufactures*, which also promoted Dr Torrens' pills. This proved so popular that it was still being reprinted in the 1880s. Details of Dr Torrens' pills arose during a court case in 1850 when Brook sued another Huddersfield printer for producing a libellous poster bearing Brook's imprimatur. Brook won the first round of the case but withdrew the charge before it went to appeal, burdening himself with £40 expenses (Anon, 1950d; 1850f; 1850g). His interest in botany therefore had a very practical and commercial application. An announcement (Brooks, 1855) that he was now confining himself to the printing business may indicate a withdrawal from pamphleteering, although he appears simply as 'bookseller' in 1861. He remained President of the HNS for about a decade but there is no evidence of any activity after 1862, when he provided some plants to the HNS public exhibition and addressed a Wakefield meeting of the WRCNS on his specialist subject of the Linnaean names and medical properties of plants (Barber, undated). Richard Brook later moved to London and in 1872 he presented the HNS with 20 copies of the new edition of his '*Introduction to the Science of Botany*' (Anon, 1872).

Figure 1. James Varley with an 'obtained' Ring Ouzel.
Tolson Memorial Museum, Huddersfield

The only biography we have of a local naturalist is that of James Varley (Fig. 1) and that is thanks to Seth Lister Mosley, who was both his neighbour and pupil. Born in 1817 at Primrose (then Bunkers) Hill, a hamlet outside Huddersfield, he first appears at an HNS meeting in 1855, seconding the annual report. His interest in natural history stemmed from his youth when, 'in the companionship of his gun', he was an avid collector of birds. Having little formal education he learned to name birds and gained his first knowledge of Lepidoptera from 'Johnny-at-Bum', a well known 'bird stuffer', as taxidermists were then more popularly known (N.B. Bum is an abbreviation of Bumroyd). After a sojourn working in Clayton West he returned to the Huddersfield area, eventually settling at Almondbury Bank around 1853. Here he renewed his acquaintance with James Mosley, Seth's father, a fellow collector and a leading bird stuffer.

Varley is typical of many naturalists at that time who combined obsessive collecting with an extensive scientific knowledge. An account of one of his collecting trips to Sherwood Forest appears in the *Naturalist* (Varley, 1864). He also collected and bred moths which he sold or exchanged with leading entomologists throughout the country. In 1864 he bred a hitherto unknown melanic variety of the Magpie Moth *Abraxas grossulariata* which was named *varleyata* in his honour. Trading in specimens could be lucrative but not sufficient to make a

living. Exactly how he did this is not clear, though he described himself as a tea dealer in 1851, as a cloth finisher and shopkeeper in 1861 and as grocer and clothdresser a decade later. He passed on his knowledge to the rising generation of naturalists, including George T Porritt, who recollected 'the fear and trembling with which, as a small schoolboy, I used to take my specimens to him to name'. He also made his collections of birds, eggs and Lepidoptera available to any local organisation that held an exhibition, being the largest contributor at Huddersfield Mechanics' Institution Christmas Festival in 1861. 'His success inspired others' commented Seth Mosley, 'and Varley looked upon a love for nature as a means of saving men from the evils of intemperance'. After several years of ill health, through which he continued to serve the HNS, and following a short bout of insanity, he died in January 1883 (Porritt, 1883).

We also have some glimpses of less prominent working men naturalists at home. George Goddard, a handloom weaver, lived in a cottage near the top of Castle Hill, an ancient hillfort to the south of Almondbury. On Sunday 7 June 1863 his cottage was struck by lightning, damaging furniture and blowing out the windows as well as breaking 'two small cases of stuffed birds belonging to Mr Goddard, who is a humble student of nature, and a member of the HNS. Two or three other cases, containing moths &c, together with an aquarium, escaped destruction'. Mrs Goddard, holding a knife, was slightly injured and his 'loom containing unwoven material was rendered useless'. His friends raised subscriptions to help pay for his repairs. This spirit of camaraderie was apparent when George Godward, 38, a woollen slubber of Almondbury, whose botanical collection had been displayed at the HNS 1862 exhibition, died suddenly from apoplexy earlier that year. 'A most persevering member' of the HNS 'his remains were followed to the grave by a number of his brother naturalists.' He left a widow and six small children 'unprovided for' (Anon, 1863a, 1863b).

Henry Charlesworth of Thirstin, Honley, who entertained members with a patriotic song at the 1856 dinner, was a woollen spinner. As well as being an esteemed member of the HNS, he was involved with the Literary and Scientific Society and 'was well known in the district as an expert and diligent collector of entomological and other specimens and as a devoted student of natural history. Those who have visited him in his home, which was also his study, his laboratory and his museum, will not forget the pleasure they derived from the examination of his beautiful collection, tastefully arranged in cabinets made by himself.' He died aged only 32 in 1863, leaving a wife and two small children (Anon, 1863c). His widow loaned some of his bird cases to an exhibition at Honley National School three years later (Anon, 1869).

Although he appears never to have joined the HNS, no account of Huddersfield working men naturalists can ignore the handloom fancy weaver and joiner James Reid Mosley (Fig.2), both on account of his practical contribution to natural history and to the impact he had on others, not least his son Seth. Seth was devoted to his father's memory and throughout his life recorded numerous anecdotes and reminiscences, although sometimes cryptically (Mosley, undated; 1898). His column 'Nature Around Huddersfield' ran in the *Huddersfield Examiner* from 30 May 1914 until 19 Jan 1929; he died on 6 Feb of that year. This is evident in his reference to James' temporary disappearance from the district in the 1830s. He was, Seth recollected later with some misgivings, 'passionately fond of a gun' and, caught poaching, fled to Keswick. However, it appears that James may not have fled the authorities but members of his own community in Kirkburton since he was involved in a dispute culminating in the conviction for murder and execution of another weaver in 1835. His brother Charles acted as prosecution witness, in the course of which he revealed that he had been arrested for poaching and shooting a cow (Anon, 1835). This possibly explains Seth's

garbled account of the incident and confirms his view that uncle Charles was also an inveterate poacher. Seth remained guarded about how his father came back to the area about three years later, 'it would be unkind of me to chronicle the circumstance of his return', but he could not have been under too much of a cloud since he married Mary, daughter of Matthew Lodge, a small fancy manufacturer of Toll Bar House at Highgate Lane and sister of several brothers also in the fancy trade (Mosley, 1928b). Her family were not poor handloom weavers and it is unlikely they would have allowed Mary to marry someone who was indigent or disreputable. Lodge and Mosley shared mutual in-laws. Mary had a knowledge of herbs and her brother John was an admirer of the unreassuringly named herbalist Dr Coffin of Sheffield.

Figure 2. James Reid Mosley
Tolson Memorial Museum, Huddersfield

After living for a while at Cowm Top, Lepton, where Seth was born in 1848, James moved to Almondbury Bank shortly after 1851 and abandoned fancy weaving to become a joiner on cottages built by a brother-in-law. Seth admitted that his father was sometimes still overcome by 'the old poaching spirit' and this is corroborated by an incident in 1850 when James was fined 20 shillings by a Huddersfield magistrate for 'trespassing in search of game' with a dog and gun. Also accused but acquitted was George Bedford, a member of HNS. Three witnesses were produced by the defence, one of them also a HNS member who claimed that they were merely 'indulging their curiosity on the road by collecting insects, but had no such idea as searching after game' (Anon, 1850e). On a later occasion, on the way to Halifax before dawn, Mosley walked all the way back from Elland to fetch his gun to shoot a roosting Pheasant. Apart from game he shot a vast number of birds for his own and others' collections. One year particularly large flocks of Waxwings and Siskins occurred, seeking the seeds on the Alder trees at Fenay. Several of these were shot and stuffed by Mosley and found their way 70 years later into the birdroom of the Tolson Museum where his son was curator.

Seth never made quite clear when his father actually began bird stuffing, but he had already built up a collection at Cowm Top by 1847 and printed blue cards with gilt lettering advertising 'Mosley's Museum'. He learned the craft from Hugh Reid of Doncaster, walking there for four lessons costing him a guinea. Reid was probably the best teacher to be found in Yorkshire, had rich patrons throughout the country and is credited with work on some rare specimens, including a Bartram's Sandpiper which ended up in the collection of Lord Willoughby de Broke. Hugh used white Flamborough sand, which he claimed was expensive, in fitting up his cases but James found his own source and sold it to other stuffers for 6d a pint. According to Seth, this added a neat and clean finish to the cases (Mosley, 1926a).

Mosley's daughter Hannah was among the 12 workers killed on 23 November 1857 when the boiler exploded at the small cotton spinning mill of George Kaye, near Shorefoot weir at Aspley, flinging masonry and shrapnel in all directions. Two gentlemen from a relief committee set up to help the injured and bereaved visited Mosley, who was described as a

'naturalist'. Hannah was said to have been the only child in work and James was 'grateful for something to help him carry on business as a bird stuffer', having expended £7 on funeral expenses (Anon, 1857b).

James did not just case birds for collectors interested in natural history or in preserving hunting trophies. In the early days much of it was purely ornamental work 'for public houses and the like...embellished with artificial flowers, tinsel trimmings or silk cords and tassels' (see Plate IV, centre pages). Along with Crabtree of Halifax, James had the reputation as the best stuffer in the district. One collector was said to have been so disgusted with the inferiority of his own specimen compared to Mosley's work that he had thrown a candlestick, complete with lit candle, through the glass. In addition to bird stuffing, Mosley became a gamekeeper at Heaton Lodge Woods, as well as looking after sporting gentlemen's guns and dogs.

He built up a large entomological collection, sometimes assisted by his wife and Seth, also breeding butterflies in tea chests for making framed pictures, an art form which was to die out as naturalists realised its dubious scientific or moral value On some Sundays James met other collectors at Leeds or Wakefield or travelled to some half-way house, such as Kayes' Arms at Grange Moor, to exchange butterflies or moths. Even when reflecting on the darker side of the Victorian view of nature with its obsession with acquisition and collections, the moth and butterfly hunting (to the extent of driving some species to extinction locally), activities which he later considered indefensibly destructive of life, Seth Mosley still saw some redeeming virtue in his father's activities: 'I have to be thankful for the fact that I possibly should not have been what I am if my father had spent his time in more un-intellectual amusement instead of being a collector of insects' (Mosley, 1926b; 1928a; 1928b).

James, sometimes accompanied by James Varley, led shooting parties of between two to five to Flamborough Head nearly every year through the 1850s and 60s. This could be a hazardous undertaking. In 1861 ten 'gentlemen' visitors from Cheshire drowned off Flamborough on a shooting expedition (Anon, 1861). Collecting also took its toll of the bird population. The wholesale slaughter wreaked by such expeditions resulted in the first attempt at wild bird protection, the Sea Birds Protection Act of 1869. Seth sometimes accompanied his father later, recollecting the guns echoing like cannonades and the 'boat bottom covered with birds'. He admitted that his father 'killed perhaps more birds than any one man besides' and 'deeply regretted' that 'he was perhaps the main cause of agitation against shooting'. Nor was it just seabirds that suffered. The gun was standard equipment for Victorian naturalists of all classes, leading Seth Mosley to describe his book *The Birds of the Huddersfield District* as 'a record of murder and plunder from beginning to end' in the preface (Mosley, 1915).

James was not the only local stuffer and others included Emsley of King St, Huddersfield, John Gough of Almondbury Bank and J. Bradbury of Brierly Wood. However, according to Seth, at least James Mosley was the best in the district and, even allowing for Seth's filial bias, there is no doubt of his repute, which gained him contacts across the social scale. At one end were the working-class bird clubs in pubs, where members paid each week and then ordered skins from Cook of London or Dunn of Orkney, which James would stuff. They usually met on Sunday evenings and Seth went as a boy to the Ship, the Commercial (Paddock), the Bridge (Lockwood), the Wharfe (Aspley), the Green Cross (Moldgreen), the Ramsden Arms and the Saracen's Head. Some landlords would also order birds of their own

for display. (For the association of naturalists and pubs see Secord, *op.cit.*; for Dunn see Williams 2012.)

Mosley's house at Almondbury Bank now had a parlour filled from floor to ceiling with cases of birds which functioned as a showroom for his work and as a 'museum' for the curious. Most of the visitors were working men who arrived nearly every Sunday. Seth later recalled one in particular, 'When I was a little boy, just about sixty years ago, a man called William Goddard used to bring birds for my father to stuff for him, or to pay a weekly contribution for others he wished to purchase' (Mosley, 1914). On Sunday 'our house was the rendezvous for bird fanciers from all the country round', including Wakefield, Halifax and Leeds, 'some Sundays the house never cooled' The working class collectors who Seth remembered from this time included Jack Dyson of Paddock, William Boothroyd of Leeds Road, John Walker of Broad Lane, William Hudson of Folly Hall and William Ward of Paddock as well as James Varley (Mosley, 1927). At the other end of the social scale were those gentlemen who occasionally called during the week to see how the fitting up of their cases was progressing. They included the manufacturers Alfred Beaumont of Steps Mill, George Armitage, Snr and Jnr, of Milnsbridge Mills, George Brook Jnr of Larchfield Mill and John Burgess of Brighouse, who operated Seed Hill dyeworks, as well as the schoolmaster Peter Inchbald and the Rev. Job Johnson of Denby. Contact with Inchbald, Beaumont and others who visited his home provided an enlightening glimpse of different cultural values for Seth Mosley: 'I feel that if I have any goodness in my nature the seed was sown by these persons who for a few minutes of their brief visits I could see and listen to a refinement I knew little of otherwise...' (Mosley, 1925).

Despite these social contacts, neither Seth nor his father were social or political conformists. Both James and all his brothers-in-law were 'sceptical', and the only memory Seth had of the mention of religion in the home was when his mother once asked him if he knew a prayer. James' scepticism did not just entail a disbelief in God. He had an active interest in secularist ideas and Seth remembered how, aged seven or eight, he accompanied his father to town to collect the weekly secularist journal, the *National Reformer*. However, since this was not published until 1860, it is more likely that the journal was its forerunner the *Reasoner*, which was certainly circulating in the town at this time (Royle, 1974). Seth attended Huddersfield Secularist Sunday School in 1866 and was active in the Secularist Society for about six years. S L Mosley gives the Secularist Sunday School Report in the *National Reformer* of 1 November 1868. When the visiting 'infidel' lecturer Charles Bradlaugh (Bradlaugh Bonner, 1908) was locked out of the Philosophical Hall it was the young Seth Mosley who brought the crow bar to attempt a forced entry! (Anon, 1919; Mosley, undated).

Middle class naturalists

Peter Inchbald arrived at Storthes Hall, set in a steep wooded valley near Kirkburton, three miles from Huddersfield, in mid 1846 when aged 30. He had previously run a school at Adwick Hall near Doncaster since the death of his father, the Rev. Peter Inchbald, a decade before. In the 1851 census Peter is described as 'Principal of School', the assistant master and maths teacher was Jabez Abbott, a BA from Queens College, Cambridge, who had also formerly taught at Adwick, while Jabez Greenwood is described as 'writing master'. In that year nine pupils are recorded, aged between 8 and 16.

The school was advertised in January 1848 as intending to combine 'the advantages of private instruction, imparted to a limited number of pupils, with those of the large Public Schools'. Peter Inchbald, 'who has resided for some time on the Continent', also taught French, German and Italian. The education offered was to be tailored to the 'future

destination of each pupil' but particularly for those 'designed for mercantile life'. Even though the subject was not part of mainstream education, the Principal's interest in nature was also used as a selling point: 'During the hours of relaxation, the minds of the pupils are led to the study of BOTANY, and those branches of NATURAL HISTORY which tend to furnish them with useful knowledge and rational amusement'. Emphasis was placed on the benefits of the school's location, described as 'particularly healthy: the Grounds and Woods about it are extensive, and well adapted for the purpose of exercise and amusement'. It was in these idyllic surroundings that Inchbald trained a generation of naturalists (Anon, 1848; 1853a).

One such was Joseph William Dunning of Leeds (1833-1897), a later President of the Royal Entomological Society, who had also been a scholar at Adwick (Anon, 1898). Handwritten notes in his 1832 edition of Rennies' *Conspectus of Butterflies and Moths*, based on observations by himself or by Inchbald, throw some light on activities at Storthes Hall (Remington & Beaumont, 1996). The records end at Adwick in July in 1846 and begin at Storthes Hall the following month, enabling us to date the relocation of the school. The references to the number of butterflies and moths 'taken' shows that collecting continued without interruption. One entry, for the Small White, refers to this butterfly's occurrence at both places - 'Taken at Adwick in May 1846 and at Storthes Hall in August 1846' (Fryer, 1998).

Other pupils included T H Allis (another leading entomologist), John Collins (later Vicar of Shepley and another avid insect collector) and Alfred Beaumont, the son of a woollen manufacturer at Steps Mill, Honley. The boys probably had opportunity to meet visiting naturalists such as the renowned lepidopterist H T Stainton, with whom Alfred Beaumont became closely acquainted in later life.

Observations made by Inchbald and his students were published in an occasional column, intended for the general reader, in the *Huddersfield Chronicle* between June 1853 and March 1854 on such topics as 'Summer Butterflies'. Inchbald was also a renowned expert on galls, writing detailed accounts of the life cycle of the Yellow Gall-gnat (Inchbald, 1860) and on the local occurrence of galls on willows. He hatched specimens of the sawfly *Cryptocampus angustus*, which he said was new to the British Museum list of Hymenoptera and also refuted the view that no insects fed on the Yew by describing the gall gnat which he hatched in 'considerable number' in 1861. The galls this insect created 'occur, often abundantly, on yew trees near Woodsome Hall' (Inchbald, 1864a). However, his researches were not confined to the vicinity of Storthes Hall. In 1864-65 alone he reported on field trips to Forge Valley (Scarborough), Strensall Common, Stockton Forest, the Isle of Wight, Loch Lomond and Llandudno (Inchbald, 1864b; 1864c;1865).

In July 1865 it was announced that he was moving his establishment to Hovingham Lodge, near Castle Howard, after the summer vacation and his belongings at Storthes Hall, including furniture, paintings, a mare colt and farming implements, were auctioned. He was later made a life member of HNS (Anon, 1865a).

As Peter Inchbald's pupils explored the woods and fields around, Alfred Beaumont was one of those who developed a life-long passion for collecting birds and insects. This was recognised by his election to the Royal Entomological Society when he was only 20. Following his marriage in 1858 to Mary, the daughter of Joseph Hirst, a wealthy merchant-manufacturer, he lived at Greave, Wilshaw. Mary died in childbirth eight months later and following the death of his father in 1866 Alfred returned to Steps.

Alfred was a member and a Vice-president of Huddersfield Literary and Scientific Society (HLSS) and also served terms as Patron and President (1864-1866) of HNS. Eighty cases of British birds from his collection were loaned for the 1860 Annual *Conversazione* of the HLSS. Some appeared in the HNS exhibitions at the Philosophical Hall in 1862 and at the Gymnasium Hall in 1864 and 1873, among them several of his albino specimens as well as 16 cases of butterflies and moths, clearwings, bugs and caddisflies. Alfred augmented his bird collection by buying some cases from John Burgess of Brighouse, another of J R Mosley's clients.

Alfred typifies how the common love of nature broke down social barriers. The 23 July 1864 meeting of the HNS, composed mainly of working men, was held at his residence at Greave, where they had tea and inspected Alfred's 'beautiful collection of Birds and Insects', followed by a discussion on annual migration of small birds and other topics (Anon, 1864c). On 21 June the following year the HNS again held a 'grand field day' at Greave, 'picturesquely seated at the edge of lofty moorlands', when there were 70 members present. After their ramble, which resulted in 'well filled vasculums', they enjoyed an 'excellent tea' and visited the church at Wilshaw built in memory of Alfred's first wife: 'This edifice together with the beautiful grounds attached, elicited much admiration.' His former teacher Peter Inchbald was present to name the large number of plants which had been gathered. Alfred showed his guests some rare birds: an Andalusian Hemipode, only the third captured in England, a Wilson's Petrel and a Kite from Bolton Abbey, as well as cases of beautifully mounted micro-lepidoptera. 'The evening was afterwards spent in a most hearty and convivial manner as naturalists generally know how...' (Anon, 1865b; 1865c).

Figure 3. Rev Job Johnson
Tolson Memorial Museum, Huddersfield

In the tradition of Gilbert White and Charles Kingsley, there were several clergymen in the Huddersfield area who were interested in natural history. The most prominent of these, and a visitor to the Mosleys, was the Rev Job Johnson (Fig.3), incumbent of Denby (aged 44 in 1861). He used to bring birds for Seth's father to stuff until the schoolroom at the Vicarage was full to the ceiling with cases, as well as cabinets of butterflies and moths. He took his pupils on rambles, turning some of them into ardent naturalists. The duties of a straggling rural parish meant that Job had a decreasing amount of time for nature study, but he made his mark as the discoverer of the hiding place of the Brindled Ochre moth *Dasypolia templi*, specimens of which he hunted himself or bought for a few coppers from quarrymen. 'Whether it follows upon the trade of the mason or aspires to the profession of the priest, I cannot quite divine, for I find it both in the quarry and the church' he joked in *The Naturalist*.

'But apart from this, a two hours hunt for *D. tempi*i is generally no joke, but on the contrary, a matter of real labour...' (Johnson, 1865).

Job's interests were by no means confined to this creature and at a WRCNS meeting at Heckmondwike on 17 April 1865 he described the need for a wider 'Science of general natural history, showing the proper spirit in which the pursuit should be followed, leading the mind gradually from nature up to nature's author'. Whether this was a paraphrase of the actual expression or whether the clergymen did refer to 'nature's author' rather than 'Nature's God', this widely quoted sentiment of Alexander Pope was current amongst naturalists of both deistical and orthodox Christian persuasion. Job returned to the theme of the love of nature when he again spoke to a meeting of the WRCNS, hosted by the recently formed Clayton West Naturalists' Society in 1865 (Barber, 1872; Mosley, 1923; 1925).

The origins of the Huddersfield Literary and Scientific Society

Charles P Hobkirk, a bank clerk and later bank manager, born in 1837, had a special interest in bryology. He acknowledged the help given by both Inchbald and Dunning when compiling his lists of Lepidoptera for his 1859 *Huddersfield: its History and Natural History*, the first comprehensive survey of the flora and fauna of the district (Hobkirk, 1859). Indeed, Seth Mosley includes Hobkirk among Inchbald's pupils but I have not been able to confirm this. Whatever the case, Inchbald undoubtedly was a major influence. Some of Hobkirk's bird records also came from Inchbald, such as the Nuthatch (then very rare) shot in Storthes Wood in the Autumn of 1847. Interestingly, one of the local naturalists omitted from Hobkirk's acknowledgements was James Mosley. Seth later expressed regret that his father had not shared his knowledge with him, but did not disclose the reason. It may have been because Hobkirk was a devout Christian and Mosley an equally devout freethinker. Whatever the reason, it is a rare example of lack of cooperation between fellow local naturalists.

Hobkirk was one of the founders and first secretary of the Huddersfield Literary and Scientific Society which, he later recollected, was 'concocted' in the kitchen of Thomas Robert Tatham, the Medical Officer for the northern division of the Huddersfield Union (Anon, 1884). David Brown, Tatham's assistant, another medical man George Winter Rhodes and the printer George Tindall drew up the initial plan for a society to promote 'mutual improvement in all branches of science and literature'. The inaugural meeting was held in the library of the (now defunct) Philosophical Society on 16 March 1857. G W Rhodes, as President, delivered an address on the aims of the society, distinguishing between the inductive and deductive sciences: 'The inductive or natural sciences had a greater claim on the time of society, both from the vastness and variety of the treasures they have already yielded and the untold beauties and wealth which remain as yet hidden...' (Anon, 1884). According to Tatham, Rhodes was well educated, 'above the ordinary class of medical men' (Anon, 1862a). He had begun work at Huddersfield Infirmary in 1840, becoming house surgeon before taking up studies at King's College and earning diplomas from the Royal College of Surgeons and the Society of Apothecaries. He had been in Paris during the 1848 revolution, where he had studied 'military as well as civil surgery' before returning to Huddersfield the following year to practice (Anon, 1862b). On Tatham's resignation in 1862 Rhodes was elected to his post. David Brown studied comparative anatomy and physiology, winning the Dalton natural history prize at Owen's University. At the first ordinary meeting of the HLSS he spoke on 'the three great plans of animal structure, the terrestrial the aerial and the aquatic' (Anon, 1857d; 1861a). The HLSS also initiated science classes and in 1861 entered students for the first national examinations set by the Science and Arts Department of the Committee of Council on Education. George Tindall won silver medals for zoology and

animal physiology and Hobkirk for vegetable physiology and economic botany. Both were referred to as 'self taught' (Anon, 1861b; 1861c).

From the start, therefore, natural history was one of the main interests and activities of the society. Hobkirk's close links with Inchbald are underlined by an invitation to HLSS '"naturalists" section' to visit Storthes Hall on 27 May 1859, where they enjoyed 'the picturesque views of woods, streams, hills and dales' as well as seeing Inchbald's bird and insect collections (Anon, 1859). By 1862 a Field Club had been established and at the Annual Conversazione the HLSS President, Edward Brooke Jnr, announced that it '.. had been so far successful as to be now possessed of more specimens than they had cases to contain them in... the society had been compelled to remove to more eligible premises and they had selected the old Mechanics Institution in Queens Street, which afforded facilities for the formation of a museum' (Anon, 1863a). Edward Brooke's family firm owned coal and clay mines and a brickworks on Leeds Road at Fieldhouse. His special interest was, unsurprisingly, geology and he became a Fellow of the Geological Society by 1869. Brooke, like Hobkirk, Rhodes, Tindall, Beaumont and others, increasingly cooperated with members of the HNS in such activities as lectures and exhibitions, enjoying dual HLSS/HNS membership, and it was mainly through this synergy that the HNS expanded its social base in the early 1860s.

'Gentlemen of talent'

The first opportunity for the HNS to reach out across the social and political divide came on 12 April 1853 with the presentation by Brook and Hanson of an Address from the society to Lord Goderich, the Liberal candidate for Huddersfield, at a ceremony at the Albion. This was a marked contrast to Brook's stance only five years earlier when, as a Chartist, he had criticised the Liberals as champions of the wealthy classes. Perhaps Brook's sympathy for Goderich was helped by the fact that he was opposed by the renegade Chartist and Socialist Joshua Hobson, whom Brook blamed for his expensive court case in 1850 (Brook, 1852). Goderich, however, was a supporter of Christian Socialism and strong advocate of working class improvement, including cooperative societies. The Address declared that the study of nature transcended social boundaries and fostered unity since 'The great Author of nature has not left it possible for her bounties to be monopolised by any class' and 'in the temple of science, all men are brethren'. A sense of pride in the achievements of members, despite their adverse circumstances, was evident. Referring to the rows of cases on view, containing about 2,000 specimens of Lepidoptera and several of birds' eggs, John Hanson remarked: 'The truly splendid collection before them was entirely the work of men many of whom, and the principle part, were engaged in the factories and this was all overwork (applause)...'. Goderich, who had a genuine interest in natural history, recounted his stay in a country inn while he searched Sherwood Forest for insects. Unlike working men, who neglected politics to collect, Goderich's political ambitions had meant neglect of his collection, which he hoped was destined one day for a museum in one of Yorkshire's Mechanics' Institutes. He was presented with honorary membership and his patronage continued after his election win, for example in 1855 donating Wood's *Index to British Moths and Butterflies* to the society's small but growing library (Anon, 1856; 1866a). Goderich's interest in the HNS appears genuine. He had nothing to gain electorally from it since most, if not all, of the members were non-electors (Anon, 1853b; Denholme, 1982).

By the close of 1860 both membership and the HNS library were growing and 'a very handsome and powerful microscope' had been ordered from Joseph Wood of Birkby. There was also a new and influential Patron - the Earl of Dartmouth, whose endorsement was vital since he owned so much land in the area. To demonstrate the importance of access to his

estates, a cabinet of insects collected in Farnley, Woodsome, Honley and Slaithwaite was dedicated to the Earl, with the inscription 'as a token of their appreciation of his lordship's kindness in allowing them free permission to wander in his lordship's grounds...'. As well as Goderich (now Earl de Grey and Ripon), the other Patrons were the present and past Huddersfield MPs Edward Aldam Leatham and Edward Ackroyd (Anon, 1861d).

In 1862 the Society was reported to be 'flourishing' due to the 'generous support' from its patrons and the permission conferred on members by Dartmouth to collect specimens while 'rambling over his estates'. The Dartmouth link was highlighted on Sunday 17 August by the attendance of '60 or 70 members', each sporting a symbolic plant on his coat, at a sermon at the rural church of Farnley Tyas delivered by the incumbent, Rev Cutfield Wardroper, who owed his living to the estate. The psalm 'O Lord how manifold are thy works...' was used to illustrate 'the great truths which the society recognise as the foundation of their studies.' The members, 'principally working men', had 'hitherto not brought the society before the public'. This they were intending to do by holding a public exhibition with the Earl of Dartmouth presiding at the opening ceremony (Anon, 1862c). Hobkirk's report to the 1862 Exhibition refers to only 50 members.

The 'Grand Exhibition' opened for a week at the Philosophical Hall on 22 September. This was the first time that working class members and their supporters from the other classes were brought together at a public event, demonstrating how the social composition of the society and appeal across class boundaries had developed in little over a decade. In a hall 'emblazoned' with quotes from the psalms, most prominently the one quoted at the Farnley sermon, the members set out their collections of Lepidoptera, birds and eggs, shells and geological specimens. There were also displays of plants and flowers, aquaria and microscopes, while among the curiosities was the Dartmouth coat of arms made out of insects by John Varley, a 42-year-old cloth finisher of Almondbury. There were more than 30 exhibitors, most of them working men, including small tradesmen[1].
At the opening ceremony three clergymen and three HNS members closely involved with the HLSS, Hobkirk, Rhodes and George Tindall, joined the platform alongside the Earl, who praised the work of the society as an 'elevating pursuit' and wished that it would progress as it deserved, '...not the less so because its members are working men. (Hear, hear)'. It was the duty of all thinking men of whatever 'rank or occupation' to encourage such efforts. He also thanked the society for the cabinet of insects collected on his estate two years previously, which he now intended to make his daughter 'curatoress' of, since she was 'devotedly attached to the pursuit of entomology.' Hobkirk's report also referred to the privilege members now had of 'entering all the woods and parks in the neighbourhood' on presenting their membership ticket. However, landowners had been given the assurance that a stringent rule would be enforced and 'any member found poaching or otherwise

[1] Some of these cannot be identified with any certainty, but comparison of the 1862 HNS list of exhibitors (Tolson Memorial Museum) with the census reveals (as well as those we have met above), George Bedford, of Lascelles Hall, 33, (described as a labouring man in the court case with James Mosley in 1850 , when both were handloom weavers), who in 1861 describes himself as a 'Naturalist'; Gibson Thornton, 55, Lockwood, shoemaker; Elijah Carter, 38, Paddock, hairdresser, (a founder member of the society); William Guthrie, 40, gardener at Fixby Hall; George Liversedge,49, Bumroyd, joiner; John Williamson, 49, Paddock, fancy weaver; Alfred Priestly, 26, Paddock, cloth finisher; James Liversedge, 28, Paddock, cloth finisher; William Goddard, 26,Primrose Hill, slubber; John Gough,69, Almondbury Bank, former handloom weaver turned grocer and bird stuffer; Hugh Finch, 33, Aspley, cloth dresser; Robert Kaye, 37, Newsome, handloom fancy weaver; John Williamson, 49, Paddock Foot, woollen weaver; William Briggs,41, Bradford Road, grocer; John Armitage, 54, Almondbury Bank, gardener; George Tindall, 29, Grove Street, printer, also member of the HLSS; *HC* 27 Sep1862.

misconducting himself shall be immediately expelled'. Clearly a form of moral improvement the landowners found highly commendable and a marked contrast to 1850 when HNS members seemingly condoned Mosley and Bedford's dubious activities. Dartmouth's gamekeepers were even invited to the annual dinner and toasted in 1862 (Anon, 1863b).

Although there was no specific reference to Charles Darwin, the controversy surrounding the publication of the *The Origin of Species* in 1859 must have been known to all present. A concern voiced by Hobkirk and the two clergymen speakers was the perception that natural history was at odds with, and even refuted, revealed religion. Hobkirk quoted Herschel in his support regarding astronomy and came to the defence of geology, which was being attacked 'with more virulence than ever'. He urged that no one should be deterred from studying the sciences out of fear that Nature would usurp 'God from His throne'. The Rev Hulbert of Slaithwaite believed that the appreciation of the works of nature would lead to the contemplation of nature's God, but he warned against pursuing nature study 'on the Lord's day'. He later described Natural History as an 'attractive and diverting field...too seductive on the Sabbath from the 'Tree of Life' to that of knowledge, otherwise not forbidden' (Hulbert, 1882). These reservations were reiterated by the Rev. T R Jones of Trinity Church, who cautioned that the society would only expand if people were satisfied that the study of nature was compatible with the scriptures and that the 'practical working' was sound, since 'it had been spoken of in many quarters that the society pursued its avocations on the Lord's Day'. Nature should be 'studied in a proper manner at a proper time'.

The clergymen's complaints were taken to heart and the HNS decided on a rule change at its annual dinner at the Ramsden's Arms that year, so that 'conversational meetings on Sunday, as heretofore complained of [would no longer be held]; and clergymen and gentlemen of talent who had hitherto stood all off from the society on this account, were now invited to come forward and manifest their sympathy with the working men of which the society is now principally composed...' Since these meetings were held in public houses this concession may have removed the main bone of contention and there was certainly a stronger representation of clergymen at the next exhibition in 1864. The 1862 exhibition had also led to 17 new members joining (Anon, 1863d).

The second Grand Exhibition opened at the Gymnasium Hall on 14 October 1864 with an impressive line-up of supporters. Dartmouth was again in the chair alongside the President, woollen manufacturer Alfred Beaumont, who shared the platform with his former teacher Peter Inchbald and fellow Storthes Hall alumnus J W Dunning from London. The clergy included the Reverends T R Jones, C A Hulbert, C Wardroper, George Lloyd of Thurstonland, J M'Cann of St Paul's, John Collins of Shepley, J S Spencer of Wilshaw, W Gilchrist, Slaithwaite and Job Johnson, Denby Dale (Anon, 1866b). As we have seen, the Revs. Johnson and Collins were keen naturalists. The Rev. Jones had an interest in microscopy. There were also the manufacturers Joseph Hirst JP of Wilshaw (Beaumont's former father-in-law), Thomas Brooke JP of Armitage Bridge and Edward Brooke Esq of Fieldhouse fireclay works. Ben Bradley of Sheepridge, the secretary, one of those joining after 1862, was also of some means, having retired from woollen manufacturing aged only 30. He delivered the report stating that, mainly as a result of the previous exhibition, membership had now risen to almost 100. Beaumont pointed out that with an entry fee of 2s.6d and 1d a week subscription the society was 'accessible to every poor person, however humble his circumstances' (Anon, 1864a; 1864b).

This exhibition was even more successful than its predecessor, attracting about 800 visitors daily and making £36 (Anon, 1864c). The HNS was now in a healthy position both financially

(including assets such as books and microscopes) and in terms of membership (Anon, 1864d). At the 1865 dinner, now the 'annual soiree', the gardener John Armitage attributed the growing success of the society to 'new blood' and 'new germs of life'. There were now 130 members. One 'gentleman of talent' who appears to have joined after the exhibition also provides a link with the past. William Eddison had been active in the Philosophical Society and the defunct Huddersfield and Halifax Naturalists' Society in the 1830s and early 40s (Griffiths, *op.cit.*). He was a Tory, an Anglican, a freemason and Quartermaster of the local Rifle Volunteers as well as being passionate about birds (Anon, 1870b). Born near Worksop in 1800, he served as a draper's apprentice before learning fancy manufacturing with Wood of Dalton and then, after a spell as a Huddersfield wine merchant (and connoisseur), began a partnership with the fancy manufacturer J T Clay of Rastrick, until the firm's bankruptcy in 1847 (Anon, 1849). He left the area, returning to Huddersfield in 1851 to found a successful firm of auctioneers. An accomplished taxidermist with a large collection of his own, he gave several lectures to the HNS about birds, including their edible properties (which he appears to have sampled; he found that 38 aquatic and 33 land birds were fit for food (Anon, 1870) and had his own theory that flight was aided by a lighter than air gas in their bones in *The adaptation of birds to their mode of life*; His theory was assailed by Mr S L Mosley who contended that the 'bird excluding the air from its bones and quills would sufficiently account for its buoyancy'. He was no dispassionate scientist though, since 'it was in the pursuits of a naturalist that he recalled, and always with almost boyish delight, the experiences of his early life' (Anon 1864d; 1866a; 1866c). Eddison also contributed his Huddersfield records to Thomas Allis' 1844 report to the inaugural meeting of the *British Association* on the Birds of Yorkshire.

The boost to the HNS provided by increased middle class support was not just reflected in membership but also in the geographical scope of the society's influence. The HNS played a vital role in the foundation of the WRCNS if it did not actually initiate it. In late 1861 discussions were taking place for a 'more combined and regular organised intercourse' and a preliminary meeting was held in Heckmondwike in September with 60 Huddersfield, Wakefield and Halifax naturalists present. William Henry Charlesworth and Richard Jessop of Huddersfield supported the resolution to found a society and hold the inaugural meeting at the Ramsden Arms in Huddersfield on 18 January 1862, chaired by HNS secretary J S Booth. Ben Bradley of the HNS became its first secretary and the first annual meeting was also held at the Ramsden Arms, on 7 December that year 'in consequence of the demise of the Holmfirth Naturalists' Society, at which place it had been appointed to be held' (Barber *op. cit.*; Roebuck *op.cit.*). This meeting decided to offer the WRCNS presidency to Dartmouth but he declined due, as he later explained, to 'lack of practical knowledge'. By the following year it was reported that the WRCNS membership consisted of the HNS with 72 members; the Halifax society with 45; Wakefield with 15, Heckmondwike with 25; Leeds with 25 and Norland with 14. Although some societies such as Holmfirth may have proved short-lived, others were forming and in 1865 Clayton West Naturalists' Society affiliated to the WRCNS, which held its quarterly meeting on 6 June at Clayton School Room with the Rev Christopher Bird, Curate of High Hoyland and President of the local society, in the chair. As we have seen above, the Rev Job Johnson was the main speaker. Morley was also added to the roll call of WR societies (Barber, *op.cit.*).

The WRCNS' first journal, *The Naturalist,* was published in Huddersfield in 1864 with Hobkirk and George Tindall as editors, under the motto *Labor Omnia Vincit*. It was also intended to fill the gap left by the folding of the *Weekly Entomologist* and be a means of 'binding...still more firmly together' societies throughout the county. It claimed that in Yorkshire and

Lancashire alone, where 'scarcely a village' was without a society, there existed around 2,000 naturalists (Anon, 1864-65).

Conclusion

From an isolated society of working men and artisans the HNS grew, in just over a decade, to an organisation with a wide social base, fully integrated into the intellectual life of Huddersfield. It could be claimed that this was a process of co-option, that moral improvement meant accepting the dominant moral values (strictures against poaching and Sunday meetings for example) and that patronage and paternalism were as much about control as fostering cultural improvements. There was, indeed, a fear that the spread of science among working men would encourage materialist ideas, with all their incubi of atheism, republicanism and communism. But this does not explain why a small organisation, with less than 20 members, should attract the interest and support of aristocrats, clergymen and manufacturers. Although, as Rev Hulbert said at the 1862 Exhibition, 'Whatever brought the different ranks of society together was attended with a certain amount of benefit', and the fact that natural history demanded qualities such as diligence, perseverance, hard work and intellectual stimulus, all 'elevating' characteristics which met the ideals of self help and mutual improvement, also fails to explain the involvement of Hulbert and others. These aspects of natural history led Samuel Smiles (1875; 1878) to use two working men naturalists as exemplars of the values of self help he sought to promote.

One common factor that does emerge is that whether working man, divine or capitalist, all HNS members shared the amateur's love and enthusiasm for nature. Whether the Book of Nature complemented or contradicted the Book of Scripture, it could be read by all and shared by all. For some it may have not progressed far from an obsession with collecting but for others, such as Seth Lister Mosley, who was a product of this milieu, it opened up a world of beauty and awe. However, even the collector appreciated the beauty of his lifeless, glass-coffined specimens. How far this aesthetic was a response to industrialisation and its ugliness, so eloquently condemned by Ruskin, is not locally apparent. Huddersfield, noted in the 1840s for its rural setting, was certainly suffering the encroachments of industry by the 1860s, as were many of the villages in its hinterland, and concern with smoke pollution and fouling of rivers was gaining ground (Anon, 1855b; 1866d). As well as Engels' famous description, Philips (1848) says 'Even as we walk along the streets, fine openings of landscape burst upon us and nature seems always tempting us there with her sweetest smile'.

On the other hand, science was seen as an essential part of the drive towards progress as manifested in industrial growth. The main division among the 'bretheren in the temple of science' in the latter part of the century did not arise from naturalists' different social backgrounds but between the self-taught amateur enthusiast and the professional university-educated scientist, best exemplified in Huddersfield by S L Mosley and Dr Thomas W Woodhead (Alberti, 2001). Unlike many biologists, Dr Woodhead retained his roots in the local society and community. How far the process of social integration in Huddersfield was typical of natural history societies in the rest of the West Riding awaits further research, but it was certainly a feature cherished by the Yorkshire Naturalists' Union. The only published work to even approach this specific subject focuses only on the relationship maintained between the classes by mail (Secord, 1994). In his 1900 YNU Presidential Address, George T Porritt[2], a relatively wealthy wool merchant who had risen to national prominence as an entomologist via the HNS, pointed out the union's achievement: '...we have been successful

[2] For a brief biography of Porritt see Fryer *et. al.* (2011).

in breaking down class distinctions, and making our meetings occasions on which naturalists of all grades of life meet on common ground' (Roebuck *op.cit.*). As someone who acknowledged his own debt to both the worker James Varley and the manufacturer Alfred Beaumont, he was well qualified to make this conclusion.

Acknowledgements

I would like to thank Chris Yeates, Collections Officer at the Tolson Memorial Museum, Ravensknowle, Huddersfield, for facilitating access to journals and documents relating to the HNS and YNU. Also Martin Limbert, formerly of Doncaster Museum & Art Gallery and Andrea Marshall for background information on taxidermists and naturalists in South Yorkshire. I would also like to thank Lesley Kipling, former librarian at Huddersfield Local Studies Library for material on Seth Lister Mosley, Lesley Abernethy for help with genealogical research into the occupations of Huddersfield naturalists, Geoffrey Fryer for his advice and encouragement in pursuing research into natural history and finally Professor Ted Royle and the panel of judges who awarded this essay the 2012 Yorkshire History Prize. The photographs are from the Tolson Memorial Museum, Huddersfield.

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Plate I. Broomhill Flash, Wombwell (see p.162).
Above: The shallow lake is surrounded by rough grazing, meadow, marsh and hedgerows.
Left: Barn Owl/Kestrel nestbox. Note that the lower compartment is used by Barn Owls and the upper by Kestrels, sometimes at the same time.
J.Lunn

Plate II. (see p.168)
Horse-chestnut leaf-miner parasitoids *Minotetrastichus frontalis* and a *Pnigalio* species.
D.Parkinson

Plate III. Chalcids (see p.169).
Top. Four endoparasitoid larvae of *Chrysocharis chlorus* can be seen feeding inside this larva of *Elachista poae*.

Centre. Eventually, the parasitoid larvae burst out of the host caterpillar and consume its remains before they pupate.
D.Parkinson

Plate IV.
Picture composed of butterflies and moths, probably the work of James R. Mosley (see p.188).
Tolson Memorial Museum, Huddersfield.

Plate V. Broad-leaved Helleborine *Epipactis helleborine* photographed on an island in Doncaster's Lakeside Park (see p171).
Right: Single floret.
Below: One of the 194 flowering spikes found.

L.Hill

Plate VI. Fungi of Horbury.
Above: Paurocotylis pila, a recent arrival from New Zealand (see p178). *A.Braddock*
Below: The Bitter Bolete *Tylopilus felleus* (see p177). *A.Bowers*

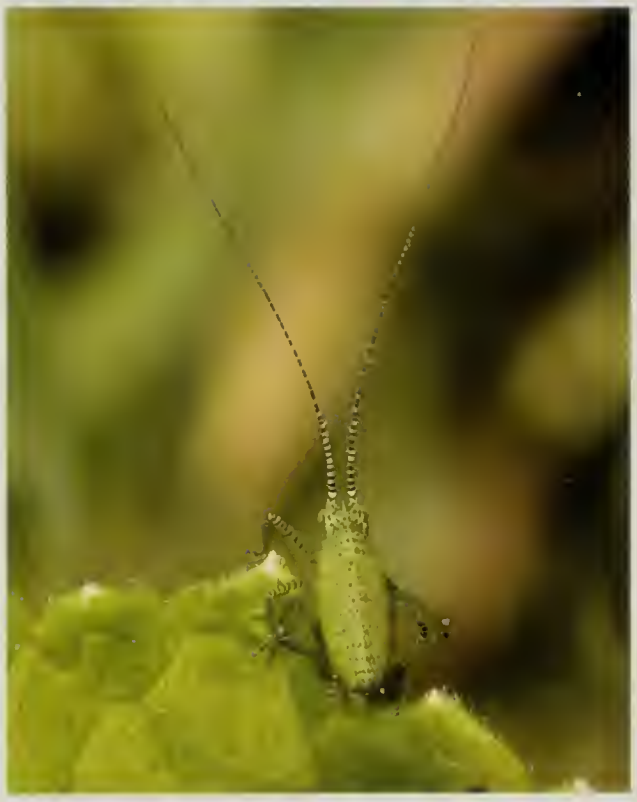
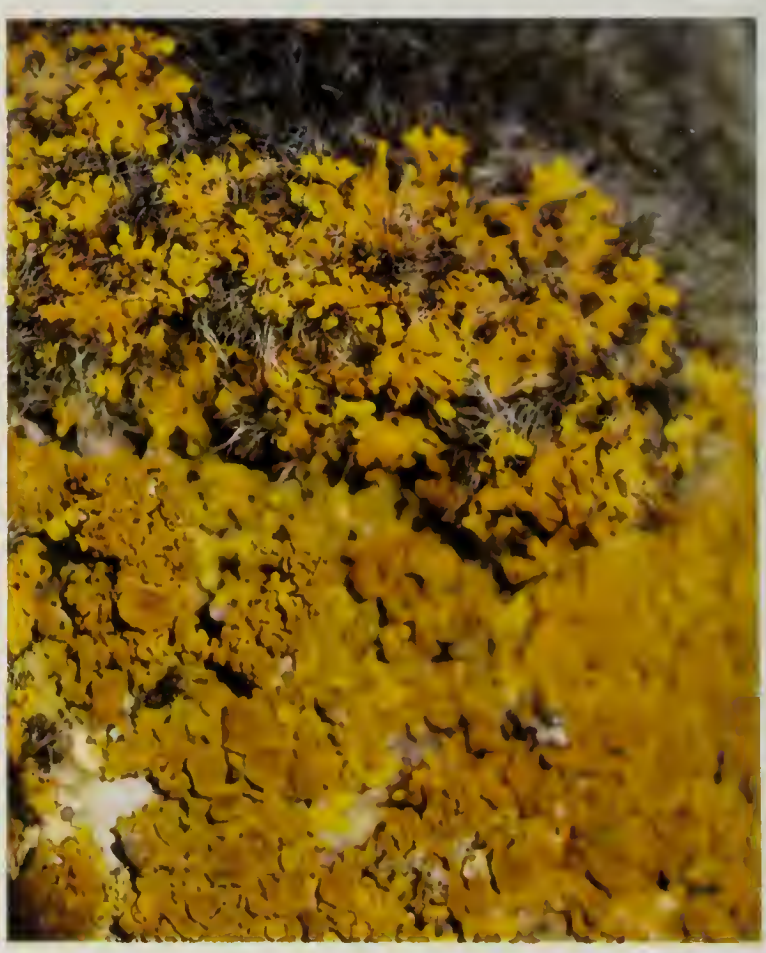


Plate VII. Wyke Beck Valley Discovery Week (see p.224).
Top: Youngsters exploring their environment. *J.Kilner*
Left: Speckled Bush Cricket *Leptophyes punctatissima* (1st instar) - a first for Leeds. *J.Bowers*

Plate VIII. YNU Excursions 2012.
Below left: Hoverfly *Helophilus* sp. seen at Scammonden, VC63 Excursion (see p237). *P.Simmons*
Below: Two species of *Xanthoria* lichens on a wall at Tophill Low, VC61 Excursion (see p233). *J.Newbould*



Notes on the spiders of Blacktoft Sands (VC63): Seasonality, biomass and prey of reedbed passerines

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Introduction

The RSPB Nature Reserve of Blacktoft Sands is situated at the confluence of the tidal Trent and Ouse (OS Centrum SE843232) and forms the western extremity of the Humber Estuary. The Reserve consists predominantly of some 122 hectares of tidal *Phragmites australis* reed-beds, which represent the largest example of this habitat in England and the second largest in the United Kingdom. Ornithologically, the reed-bed complex is important for its breeding Bearded Tits, Reed Warblers, Bitterns and Marsh Harriers and is managed by rotational cutting, periodic flooding and scrub control. Within the reedbeds are a number of open brackish lagoons celebrated for breeding populations of Avocets and other waders and for passage migrant waders and wildfowl. Adjacent land within the Reserve includes 32 hectares of grazing marsh seasonally managed for hay crops and cattle grazing. A map and habitat photographs of the site are available on the Blacktoft Sands page of the RSPB website.

The arachnid faunas associated with the specialist wetland and estuarine habitats of the Humber estuary are poorly studied, the only significant published papers traced to date relate to the dune habitats of Spurn Peninsula (Parsons & Stainforth, 1910, Braham & Murgatroyd, 1953, Sudd 1972a & b).

Whereas invertebrate site surveys are frequently commissioned in association with specific infrastructure or land management developments, these data are not generally available to researchers, though an example on the internet (Hammond & Merritt, 2004) includes a small spider list of 6 taxa. Falconer (1909) reported the first British record of the estuarine and coastal specialist *Cornicularia* (*Walckenaeria*) *kockii* at Saltend near Hull. Saltmarsh species on the Humber shore at Brough were reported in Howes (2002). The only specific reference to spiders at Blacktoft Sands is in Howes (1983), which lightheartedly featured a substantial population of *Steatoda bipunctata* inhabiting the corrugated roof structures of the bird hides.

Methods

In order to gather information on the invertebrate fauna of the Blacktoft Sands Nature Reserve and specifically to investigate potential seasonal invertebrate food sources for birds, notably Bearded Tits and warblers occupying the reed-beds, water traps were set out from January 1977 to December 1980 by Andrew Grieve, the Reserve warden. The number of traps is not known.

The water traps consisted of 15.2cm diameter brown polystyrene flowerpot saucers mounted on posts at heights of 0-50cm and filled with water and a trace of detergent. The trap contents were gathered on a monthly basis, preserved in alcohol and forwarded to Peter Skidmore at Doncaster Museum and Art Gallery for general classification and identification of insect groups, particularly the Diptera and Coleoptera. The Arachnida component was passed to the author and spider identifications were undertaken using a x20 binocular microscope and Locket & Millidge (1975). The results were forwarded to Andrew Grieve.

Due to periodic tidal flooding of the trapping sites, the samples provided were incomplete and no material from the months of August, October and December was available for examination.

Results

Appendix 1 provides a list of 34 taxa arranged alphabetically within the component family groups Linyphiidae (sheet-web or money-spiders), Tetragnathidae (long-jawed orb weavers), Clubionidae (sac spiders) and Lycosidae (wolf spiders). Nomenclature follows Harvey *et al.* (2002). The numbers of specimens of each taxon are entered for each month for which data are available and are totalled for the project. This indicates the range and relative abundance of species that are susceptible to being sampled in water traps. It is likely that not all types of spiders will be efficiently sampled by this method and that terrestrial and leaf litter species may be underestimated. Appendix 1 also provides aggregated monthly and project totals for each of the component families, allowing comparisons to be made between their seasonal availabilities. A final aggregation of the monthly and project totals for all groups provides an indication of the patterns of availablility of all spiders within the habitat.

Clubionidae and Tetragnathidae were only represented by one species each, *Clubiona phragmites* and *Pachygnatha clercki* respectively. The Lycosidae, which included six identifiable taxa, formed the second largest family and included *Pirata piraticus* which occurs in a wide variety of wetland habitats including reed-beds and *Pardosa purbeckensis* which is characteristic of tidal habitats such as estuarine saltmarshes and mudflats. A special study of the seasonality of the latter on the dune systems of Spurn Peninsula at the eastern end of the Humber is given in Sudd (1972b). *P. purbeckensis* is now considered to be synonymous with the nationally scarce (Notable B) *P. agrestis* (Harvey *et al.*, 2002).

Many of the money-spiders sampled here are well-known aeronauts, dispersing by 'ballooning', and are common to ubiquitous in distribution. Some, such as the numerous *Hypomma bituberculatum,* are associated with a range of wetland habitats. The following six show a tendency to be reed-bed and brackish habitat specialists (status and habitat comments are based on Harvey *et al.*, 2002). *Bathyphantes approximatus* is a local spider which may be numerous in wet habitats and occurs in *Phragmites* marshes; *Diplocephalus permixtus* occurs in reedbeds and brackish wetlands; *Kaestneria pullata* is common in wetland habitats including reedbeds; *Leptorhoptrum robustum* is a local species whose habitats include saltmarshes; *Lophomma punctatum* is another local spider which is frequent in wetland habitats including brackish *Phragmites* beds; and *Walckenaera kochi* has a local distribution, its main British concentration being within the Humberhead region where its habitats include saltmarsh and brackish grassland.

Potential as bird prey

Bibby (1981) classified the feeding behaviour of the reed-bed insectivores Bearded Tit and Sedge Warbler as 'gleaners' rather than aerial hunters, picking food items from surfaces such as Reed foliage or leaf litter. Spiders which are slow-moving or motionless in orb webs or silken retreats could, therefore, be potentially targeted as food items.

To investigate the potential food value of spiders to birds such as Bearded Tits, Reed Warblers and Sedge Warblers, an index of prey units was devised for each spider taxon. This was achieved by multiplying the monthly numbers of each of the identified taxa by their mean body lengths, which were derived from measurements in Locket & Millidge (*op.cit.*).

This enabled the relative proportions of spider biomass contributed by the four main spider families to be compared seasonally (see Figure 1) and in total (see Table 1).

Table 1. Relative proportions of prey units contributed by four spider families

Spider Family	Total units (mm)	Percentage units
Linyphiidae	1,126	52
Lycosidae	604	28
Tetragnathidae	234	11
Clubionidae	208	9

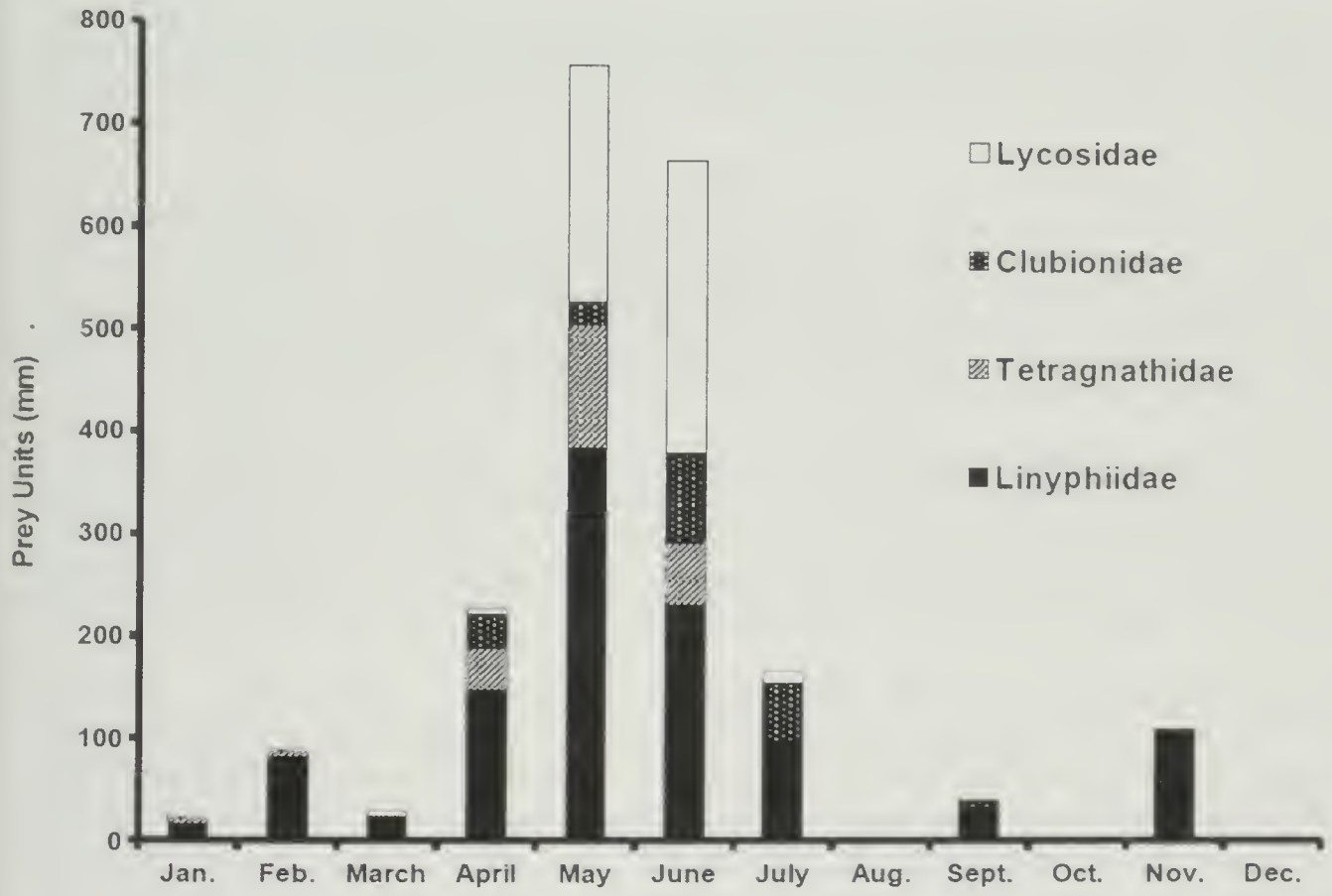

Figure 1. Index of monthly variations in potential spider biomass as determined by prey units (prey unit = mean length per taxon x number of specimens) contributed by four spider families Linyphiidae, Tetragnathidae, Clubionidae and Lycosidae. (Samples from August, October and December not available).

Of the spiders identified in this study, *Clubonia phragmitis* (Clubionidae) is a relatively large prey item with a body length of 8-11mm. It is a relatively slow-moving spider which may be seen stalking prey on Reed stems just above the water line (Crocker & Daws, 1996). Females occupy silken retreats in characteristically folded Reed leaf blades. This is likely to be a significant prey item for Reed gleaners. Similarly, *P. clercki* (Tetragnathidae), with a body length of 5-7mm and which can be found in abundance in reedbed litter, is likely to be encountered by Bearded Tits since they are known to forage on this substrate (Bibby, 1981).

The terrestrial wolf spiders are relatively substantial in terms of prey units (see Table 1 and Figure 1) with body lengths of 4-9mm. Whether these would form a significant food resource for gleaners is problematical. They are generally 'ambush predators', quick enough to seize perching Diptera and may be too nimble for reed-bed passerines to catch.

Although individual members of the Linyphiidae represent tiny prey items, ranging in size from the small *Diplocephalus permixtus* at 1.5-1.6mm to the larger *Leptorhoptrum robustum* at 3-4mm, they cumulatively formed the greatest biomass component of the spider families (see Table 1 and Figure 1). The range of Linyphiids reported here would certainly be present for birds to 'glean' at all levels within the vertical zones of the reedbed structure, from bare mud and leaf litter to *Phragmites* stems, leaf blades and flowering heads.

In studying the feeding ecology of Bearded Tts at Blacktoft Sands and Hornsea Mere (Yorkshire), Leighton Moss (Lancashire), Radipole Lake (Dorset) and Tichwell (Norfolk), Bibby (*op.cit.*) showed that spiders (taxa unspecified) formed a relatively frequent component of their diets.

A sample of 180 faeces from adult birds at Blacktoft Sands and Leighton Moss showed that spider remains were represented in the diet throughout the year, peaking in June. The samples revealed the remains of 101 spiders compared with 129 Diptera and 144 Coleoptera. The remains of 72 Gastropoda, 30 Hemiptera, 26 Hymenoptera, 25 Lepidoptera, 23 Trichoptera and 18 unspecified prey were numerically fewer than spider prey.

From 102 faeces samples from nestlings at Radipole Lake, spiders were represented in the diet from mid-April to mid-July. The samples revealed the remains of 100 spiders compared with 107 Coleoptera and 552 Diptera. Less numerous were 51 lepidoptera larvae, 17 chironomid larvae, 11 other larvae, 10 hemiptera, 4 hymenoptera and 4 other items. Again, spiders were numerically the third most frequent prey type.

Using water trapping data from Blacktoft Sands, Hornsea Mere, Leighton Moss, Radipole Lake and Tichwell, Bibby (*op.cit.*) shows the relative monthly availabilities of individuals of all invertebrate groups (2mm and above in body length) in terms of numbers of specimens per trap day per month. This demonstrates very low levels of invertebrates (below 5 per trap per day) for the months of January to April. Abundance rose through May (7) and June (10), peaking at *c.* 20 in July before declining in August (*c.*10) to levels again below 5 from September to December. These findings generally accord with trends shown in Appendix 1 and illustrated in Figure 1.

Acknowledgements

I would like to thank Andrew Grieve for running the water traps and supplying the specimens to Doncaster Museum, and the late Dr Peter Skidmore for passing the spider material to me for identification. Thanks are also due to Richard Wilson, YNU Spider Recorder, for commenting on this paper.

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APPENDIX 1. Blacktoft Sands RSPB Reserve (SE8423): Seasonality of reedbed spiders collected in 'water traps'

	Jan	Feb	Mar	Apr	May	Jun	Jul	Sep	Nov	TOTAL
LINYPHIIDAE										
Allomengea scopigera								2		**2**
Bathyphantes approximatus	3	24	4	14	39	15	1		14	**114**
Bathyphantes gracilis						1	1			**2**
Bathyphantes parvulus						1				**1**
Centromerita bicolor	1	5							16	**22**
Centromerus sylvaticus									7	**7**
Diplocephalus permixtus					3					**3**
Diplostyla concolor					9					**9**
Erigone atra					1			1		**2**
Erigone sp.				10	2					**12**
Gnathonarium dentatum					3					**3**
Hypomma bituberculatum	1			7	55	41	9		3	**116**
Kaestneria pullata			1			2				**3**
Lephthyphantes tenuis						7	13			**20**
Lepthyphantes zimmermanni					1	5	1		1	**8**
Lepthyphantes sp.							1			**1**
Leptorhoptrum robustum				3		5	1	6		**15**
Lophomma punctatum			1	2						**3**
Meioneta rurestris					1					**1**
Neriene peltata				1	1	1	3			**6**
Oedothorax retusus							1			**1**
Pocadicnemis pumila							1			**1**
Porrhomma pygmaeum					1					**1**
Savignia frontata				2	2	1	3			**8**
Tallusia expert	1	1							1	**3**
Walckenaera kochi			1	15	27	8	3			**54**
Walckenaera nudipalpis				1						**1**
Walckenaera unicornis					1					**1**
Subtotal (Linyphiidae)	**6**	**30**	**7**	**55**	**146**	**87**	**38**	**9**	**42**	**420**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Sep	Nov	TOTAL
TETRAGNATHIDAE										
Pachygnatha clercki	1	1		7	20	10				**39**
Subtotal (Tetragnathidae)	**1**	**1**		**7**	**20**	**10**				**39**
CLUBIONIDAE										
Clubiona phragmitis				4	3	11	7	1		**26**
Subtotal (Clubionidae)				**4**	**3**	**11**	**7**	**1**		**26**
LYCOSIDAE										
Pardosa agricola					4					**4**
Pardosa amentata				4	14		1			**19**
Pardosa prativaga						3	1			**4**
Pardosa purbeckensis					6	1				**7**
Pardosa saltans					3					**3**
Pardosa sp.					2					**2**
Pirata piraticus			1	3	6	39				**49**
Pirata sp.				3						**3**
Subtotal (Lycosidae)			**1**	**10**	**35**	**43**	**2**			**91**
TOTAL (all groups)	**7**	**31**	**8**	**76**	**204**	**151**	**47**	**10**	**42**	**576**

APPENDIX 2

In addition to the spiders listed in Appendix 1, the following were collected by hand by the author during visits in the 1970s.

Spiders: *Dismodicus bifron, Ero cambridgei, Steatoda bipunctata, Microlinyphia pusilla, Neottiura bimaculata, Zora spinemana.*

Peter Skidmore Appeal

In November 2011, Heather Skidmore, widow of Peter, launched an appeal in his memory to raise £60,000 to enable the Buddhist Community at Lindholme Hall on Hatfield Moors to purchase the last 30 acres of moorland. It was unable to buy this piece when it bought the Hall together with 120 acres of surrounding land in 2009. Amazingly, the money was raised in 10 months and the land has now been purchased with the condition that it will be managed for nature conservation in perpetuity. On a date to be arranged in spring there will be a celebration at Lindholme Hall for anyone who contributed. Heather is immensely grateful to all those many YNU members and others who supported her appeal.

Pip Seccombe

Some further records of feather mites (Acari: Astigmata) in Yorkshire

Barry Nattress 25 West Lea Drive, West Ardsley, Wakefield WF3 1DH

Introduction

Feather mites, whilst considered by some people to be parasites and by others to be commensals, could also be considered symbionts They feed upon feather fragments, skin debris, lipids (preening oil) and fungal spores (Aksin, 2007). They spend their entire life-cycle upon their host. Some species are monoxenous, that is, they are to be found only on a single host species, whilst others are oligoxenous and are to be found on a few, closely related, host species. This paper brings the number of species recorded in Yorkshire to sixty-one.

Taxonomical Remarks

Since the publication of my last paper on feather mites (Nattress, 2006), the following taxonomic changes have come to my notice.

Gaud and Atyeo (1985), despite referring to the paper by Chirov and Mironov (1983), confused *Scutulanyssus ottuki* with *S. hirundicola,* which was described by Mironov also in 1985. My earlier records of *S. ottuki* on Swallow *Hirundo rustica* were in fact *S. hirundicola.*

What was originally thought to be a single species found on various galliform birds was eventually clarified by Atyeo and Gaud (1992). They determined that *Pterolichus obtusus* is found only on the Domestic Fowl *Gallus gallus* and the various sub species of this host. The similar mites found on other galliform hosts were put into separate genera; those found on the Grey Partridge *Perdix perdix* and Red-legged Partridge *Alectoris rufa* were assigned to the new genus *Pseudolichus* and, correcting a previous synonym, became *P. solucurtis* (Dubinin, 1956).

Mesalgoides megnini (Oudemans, 1937) was wrongly named *Dermolichus oscinum* as long ago as 1877 and, whilst the error was corrected by Oudemans in 1937, his paper was overlooked by most acarologists. The error was finally brought to light by S. V. Mironov (1997) when, correcting the error, he used Oudemans' original designation.

Materials and Methods

The mites were removed from feathers with a very fine brush, using a stereomicroscope. They were then mounted on micro-slides in a polyvinyl-lactoglycerol medium and examined using phase contrast with a Zeiss Photomicroscope II having magnifications ranging from 200x to 500x. The scientific names of the birds follow Howard and Moore (1980).

Family *Analgidae* Trouessart & Megnin,1884

***Analges corvinus* Mégnin, 1877** First described from Carrion Crow *Corvus corone* in Europe, probably France, it has now been recorded on the Magpie *Pica pica*, the Carrion Crow and the Rook *Corvus frugilegus* from Sherburn in Elmet, SE4633 and a Carrion Crow from Torre Road, Leeds, SE3233 and Bretton Crossroads, SE2714 (Mironov, 1985).

***A. spiniger* Giebel, 1871** First described from the Icterine Warbler *Hippolais icterina*, it has now been found on the Blackcap *Sylvia atrcapilla* at Sherburn in Elmet, SE4633.

***A. turdinus* Mironov, 1985** First described from the Blackbird *Turdus merula* in the former USSR, it has now been recorded from the same host from Ardsley, near Barnsley, SE3856.

***Anhemialges bakeri* Dabert, Nattress & Labrzycka, 2010** First described from the Chiffchaff *Phylloscopus collybita* from Linton, near Wetherby, SE3946. (Dabert, Nattress & Labrzycka, 2010)

***Diplaegidia columbae* (Buchholz, 1869)** Previously recorded from the Collared Dove *Streptopelia decaocto* from Castleford, it has now been recorded on the feral Rock Dove *Columba livia* from West Ardsley, Leeds, SE2725 and Darfield, Barnsley, SE4105. It was also recorded on the Wood Pigeon *Columba palumbus* from Carlton near Goole, SE6523, Darfield, SE4105 and Methley, Leeds, SE3725.

***Megninia cubitalis* (Mégnin, 1877)** Previously recorded on the Grey Partridge and the Red-legged Partridge from Sherburn in Elmet, it has now been recorded from the type host, the Domestic Fowl *Gallus gallus domesticus* from West Ardsley, SE2725.

***M. ginglymura* (Mégnin, 1877)** Previously recorded from the Pheasant *Phasianus colchicus* L., 1758., from Sherburn in Elmet, it has now been recorded on the same host from Carlton, SE6523 and Darfield, SE4105.

***Strelkoviacarus quadratus* (Haller, 1882)** First described from the Blackcap, it has now been recorded on the same species at Sherburn in Elmet, SE4633 and also on a Long-tailed Tit *Aegithalos caudatus* from Moortown, Leeds, SE3138.

Family *Pteronyssidae* Oudemans, 1941

***Pteronyssoides striatus* (Robin, 1887)** Previously recorded from the type host, the Chaffinch *Fringilla coelebs*, it has now been recorded on the same host at Shipley, SE1437.

***Pteronyssus robini* (Faccini & Atyeo, 1981)** First described from the Green Woodpecker *Picus viridis*, it has now been recorded on the Great Spotted Woodpecker *Dendrocopos major*, at Askham Bryan, York, SE5448.

***Scutulanyssus ottuki* (Chirov & Mironov, 1983)** First described from the House Martin *Delichon urbicum*, it has now been recorded on the same host from Low Bradley near Keighley, SE0048 and from Askham Bryan, SE5448. These are the first records for this species west of Kirgizia (S. V. Mironov, pers. comm) (Chirov & Mironov,1983).

***S. hirundicola* (Mironov, 1985)** Previously recorded from the type host, the Swallow from Bilton-in-Ainsty, it has now been recorded on the same host at Keighley, SE0640. (Mironov, 1985)

Family *Epidermoptidae* Trouessart, 1892

***Microlichus turdicolus* Fain, Gaud & Phillips, 1987** First described from a Blackbird from Nice, France, it has now been recorded on the same host at Sherburn in Elmet, SE4633 (Fain, Gaud & Phillips, 1987).

Family *Proctophyllodidae* Trouessart & Megnin, 1884

***Joubertophyllodes modularis* (Berlese, 1894)** Previously recorded from the Dunnock *Prunella modularis*, from Sherburn in Elmet, it has now been recorded on the same host from Moortown, SE3138.

***Monojoubertia microphylla* (Robin, 1977)** Previously recorded from the type host, the Chaffinch from Low Bradley, it has now been recorded on the same host from Shipley, SE1437, and from Morley, Leeds, SE2563.

***Proctophyllodes clavatus* Fritsch, 1961** First described from the Barred Warbler *Sylvia nisoria* from Bulgaria, it has now been recorded on a Long-tailed Tit from Moortown, SE3138 and near Poole, Leeds SE2344. (Atyeo & Braasch, 1966)

***P. corvorum* Vitzthum, 1922** Previously recorded from the Rook at Malham, it has now been recorded on the same host from Sherburn in Elmet, SE4633.

***P. musicus* Vitzhum, 1922** Previously recorded from a Blackbird in West Ardsley, it has now been recorded from the same host from Tadcaster, SE4742.

***P. picea* (Koch, 1841)** Previously recorded from the type host, the Magpie, from Bilton-in-Ainsty, it has now been recorded on the same host from Sherburn in Elmet, SE4633 and Wincobank, Sheffield, SK3890.

***P. pinnatus* (Nitzsch, 1818)** Previously recorded from a Greenfinch *Carduelis chloris*, it has now been recorded from the type host, the Goldfinch *Carduelis carduelis* from Morley, SE2563.

***P. scolopacinus* (Koch, 1842)** First described from the Woodcock *Scolopax rusticola* from the Netherlands, it has now been recorded on the same host from Darfield, SE4105.

***P. scheonicli* Atyeo & Braasch, 1966** Previously recorded from the type host, the Reed Bunting *Emberiza schoeniclus* from Low Bradley, it has now been recorded on the same host from the Bingley Bypass, SE1040.

***P. sylviae* Gaud, 1957** First described from the Blackcap from Morocco, it has now been recorded on the same host from Bretton Lakes, West Yorkshire, SE2912 and from Sherburn in Elmet, SE4633.

***P. troncatus* (Robin, 1868)** Previously recorded from the type host, the House Sparrow *Passer domesticus* from Bramham, Driglington and Low Bradley, it has now been recorded, again from the House Sparrow, from West Ardsley, SE2725 and from Askham Bryan, SE5448.

***P. weigoldi* Vitzthum, 1922** First described from the Blackbird in Germany, it has now been recorded on the same host from Ardsley near Barnsley, SE3805, Ossett near Wakefield SE2720 and Tadcaster, SE4742.

***Montesauria cylindrica* (Robin, 1868)** Previously recorded from the Magpie from Bilton-in-Ainsty, it has now been recorded on the same host from Sherburn in Elmet, SE4633 also on the Carrion Crow and Rook from Sherburn in Elmet, SE4633 and a Carrion Crow from Torre Road, Leeds, SE3233 (Park & Atyeo, 1971).

Family *Trouessartiidae* Gaud,1957

***Trouessartia appendiculata* (Berlese, 1886)** First described from the Swallow, it has now been recorded on the same host from Keighley, SE0640. (Santana, 1976)

***T. corvina* Koch, 1841** First described from the Carrion Crow, it has now been recorded on the same host from Sherburn in Elmet, SE 4633 and Torre Road, Leeds, SE3233.

***T. crucifera* Gaud, 1957** First described from the Swallow, it has now been recorded on the same host from Keighley, SE0640.

***T. inexepectata* Gaud, 1957** Previously recorded from the Goldcrest *Regulus regulus* from Burley Woodhead, it has now been recorded on the same host from Askham Bryan SE5448.

***T. microcaudata* Mironov, 1983** First described from the Swallow, it has now been recorded on the same host from Keighley, SE0640 (Mironov, 1983).

Family *Gabucinidae* Gaud and Atyeo, 1975
***Gabucinia delibata* (Robin, 1877)** Previously recorded from a Rook from Malham, it has now been recorded on the same host from Sherburn in Elmet, SE4633 and a Carrion Crow from Bretton Crossroads, SE2714.

Family *Falculiferidae* Oudemans, 1905
***Falculifer rostratus* (Buchholz,1869)** Previously recorded from a Collared Dove from Castleford, it has now been recorded on the feral Rock Dove from West Ardsley, SE2725 and from Darfield, SE4105. It has also been recorded on the Wood Pigeon from Carlton, SE6523 and Methley, SE3725.

***Pterophagus strictus* Robin & Megnin 1877** First described from the Domestic Pigeon *Columba (livia) domestica*, it has now been recorded on the Wood Pigeon from Carlton, SE6523 and Methley SE3725.

Family *Pterolichidae* Trouessart & Megnin, 1884
***Pseudolichus phasiani* Mironov, 1997** First described from Pheasant from Germany, it has now been recorded on the same host from Sherburn in Elmet, SE4633 and Darfield, South Yorkshire, SE4105. (Mironov, 1997)

***P. solutocurtis* (Dubinin, 1956)** First described from the Rock Partridge *Alectoris graeca* , it has now been recorded on both the Grey Partridge and the Red-legged Partridge from Sherborn in Elmet, SE4733, from Carlton SE6523 and Darfield SE4105. (Atyeo and Gaud, 1992)

***Xoloptes blaszaki* Dabert, Nattress & Dabert, 2008** First described from the Red-legged Partridge from Newthorpe, near Sherburn in Elmet, SE4733 (Dabert, Nattress & Dabert, 2008)

Family *Freyanidae* Dubinin, 1953
***Freyana anatina* (Koch, 1844)** First described from the Mallard *Anas platyrynchos*, it has now been recorded on the Teal *Anas crecca*, from Darfield,SE4105 (Dubinin, 1953).

Family *Kramerellidae* Gaud & Mouchet, 1967
***Petitota aluconis* (Buchholz, 1869)** First described from the Tawny Owl *Strix aluco*, it has now been recorded on the same host from Worsborough SE3403. (Mironov, 1987)

Acknowledgements

I would like to thank Professor Jacek Dabert of the Adam Mickiewicz University, Poznan, Poland, an international authority on feather mites, for his invaluable help and advice and Dr Sandy Baker for his continuing help and encouragement. I would also wish to include Mr A. Norman; with his help I have been able to add records from South Yorkshire.

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Recorder's report for the Aculeate Hymenoptera for 2010, 2011 and 2012

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Three new species have been recorded for Watsonian Yorkshire: a spider-hunting wasp, *Auplopus carbonarius* (Old Sugar Beet Site, A. Jukes), a solitary wasp *Lindenius panzeri* (Blaxton Common, M.E. Archer) and the cuckoo bee *Stelis punctulissima* (Hull, A. Gomex; Sprotborough, S. Noble; Dodsworth, J. Coldwell). *S. punctulissima* is following its host, the recent new wool-carder bee for Yorkshire. These three species extend their English distribution northwards.

Among the social species, the Red Wood Ant *Formica rufa* has been found north of Helmsley at Ashdale and Beckdale (J. Jobe) while the record from Denby Dale (D. Parker) has been found to be the Hairy Wood Ant *F. lugubris*. A most northern record of the Hornet *Vespa crabro* was made at Clapham Primary School (T. Whittaker).

Rare solitary wasps recorded are *Tiphia minuta* (Calley Heath, R. Crossley; Nosterfield, A. Godfrey; Owlthorpe Meadows, D. Whitely), *Agenioideus cinctellus* (Lindholme Moor, M.E. Archer; Old Sugar Beet Site, A Jukes), *Crossocerus distinguendus* (Deighton, G. Boyd; Meadowhall Brownfield, J. Flanagan; Old Sugar Beet Site, A. Jukes), *C. leucostomus* (Skipwith Common, R. Crossley) and *Argogorytes fargeii* (Bridlington, Reighton Cliffs, G. Boyd).

Rare solitary bees recorded are *Andrena nitida* (Scarborough North Bay, M.E. Archer; Old Sugar Beet Site, A. Jukes), *Coelioxys inermis* (Holmgarth Goole, P. Kendall) and *Melecta albifrons* (Old Sugar Beet Site, A. Jukes).

The Old Sugar Beet Site is really enclosed countryside in urban York and has proved to have several Yorkshire rare species. It is possible that York City Council will designate a Local Nature Reserve around a sandy bank which is at the centre of the area of conservation concern.

This is my 11th report and the records of this note and others accumulated during 2012 will be submitted as an updated electronic database to the North and East Yorkshire Ecological Data Centre and my national Society, the Bees, Wasps and Ants Recording Society (BWARS). BWARS will eventually pass on the records to the National Gateway. This update consists of 33,752 records and I am quite willing to make it available on request if a CD is sent to me with return package and postage. The records are held in Excel files.

Letter to the Editors

Data for marine species

Following my comment to the editors of *The Naturalist* (2012,137: 60-61) pointing out the misreporting of the status of the Starry Ray *Amblyraja radiata* and the nudibranch *Jorunna tomentosa*, I am pleased to see something of an acceptance and acknowledgment of this in the reply by the editors.

In their reply, the editors make further comments on the status of the fish in *American and Canadian* waters, together with historical notes by W. J. Clarke etc. I would point out that these comments do not relate to the original issue under consideration, which is the status of the fish, on this coast and at this time, and which is well known to anyone with hands on experience of the fish and fisheries of this coast. I note that the editors further state that the original report was refereed prior to publication and can only comment, with the greatest deference to whosoever that referee may have been, that they cannot have had any extensive hands-on experience of local marine biological material, nor could they have been conversant with all the published work on this fish, including the results of the international ground-fish survey research cruises that monitor the North Sea fishes every year, otherwise they would have raised the same comment as myself.

The recent results of these surveys show that, although the fish has always been common, from the 1980s the population of the Starry Ray actually increased in the North Sea to an incredible 80% of the rajid biomass (Walker & Heeson, 1996, *Long-term changes in ray populations in the North Sea*). The fish is further described as 'abundant' with maximum catch rates in the particular trawl-gear used, of 232 individuals per hour (Ellis *et al.*, 2004, *The distribution of Chondrichthyan fishes around the British Isles*).

I note also that the editors confirm that *Jorunna* is not in the YNU records but I would comment that, despite the admirable merits and objectives of the NBN Gateway, it is at the present time hopelessly weak as far as marine taxa are concerned; moreover, some records of distribution upon it are suspect, probably through misidentification, and a trawl through the literature remains usually much more informative of the marine groups at the present time.

To my further comment that the historical YNU marine records do not give adequate coverage of the Yorkshire marine fauna, and the fact that the only work to detail the Yorkshire marine taxa is volume 2 of the Natural History of the Scarborough District, I would stress that the marine biologically orientated content of past editions of *The Naturalist* and the subject of the recent note, to which the editors refer, by Howes (*The Naturalist,* 2012, *137: 26*) are not *additional* to the content of the above work, they are *inclusive* and summarised within it, and subject to the fairly extensive trawl through the literature that was undertaken by the Scarborough Field Naturalists' Society during its preparation.

My comment, therefore, that the YNU does not have the extensive historical bank of marine biological information which other YNU sections have at their disposal, was based on the historical records and knowledge of their part within the Scarborough data. It will be seen from an analysis, to be presented in a future issue, that comprehensive information for many Yorkshire marine groups is absent from these items of the literature.

D.E.Whittaker

Obituary

Joan Elizabeth Duncan (née Bartle) (1916 – 2012)

Joan Duncan, who joined the Yorkshire Naturalists' Union (YNU) in 1946, died on 22 September 2012 at her home in Ilkley, aged 96. She was enthused by botany from an early age and encouraged others throughout a long lifetime of teaching, both formal and informal. Joan planned and organised botanical and conservation activities, enabling others to share the work with her in studying, recording and writing about natural history and the nature conservation activities she loved. She had an influential role in the study and conservation of Yorkshire's wildlife.

Joan was born on 13 April 1916 in Haverfordwest, Pembrokeshire, the elder daughter of Nora and Arthur Bartle. The family moved to Yorkshire in 1918 when her father obtained a post at Ilkley Grammar School. She was educated at Prince Henry's Grammar School, Otley, and later obtained a BSc in Botany and Zoology at Leeds University, where she was an early member of the women's athletics team alongside the 1936 Olympians Grethe Whitehead and Kathleen Connall. In her Presidential Address to the Yorkshire Naturalists' Union (Duncan, 1979) Joan explained: "At an early age I was influenced indirectly by the YNU. ...Miss D. Hilary, who was a prominent member of the union, gave me a copy of Watts *School Flora* (1927). When she took me through the dichotomous key to the Compositae to identify a daisy (my choice), I was then in blissful ignorance of the many pitfalls that family can provide for the unwary. I am sure that this initiation, coupled with earlier encouragement from my grandfather and subsequently by my botany mistress, Miss C.D. Seaton, at Otley, set me off on the right lines."

Qualifying as a teacher in 1938, her first job in Hull saw her taking part in wartime fire-watching duties and involved in the evacuation of the school's pupils and staff to a village in the East Riding. She subsequently taught biology at Casterton, Otley, Doncaster and then in Ilkley at Oaklands and the Grammar School.

Joan Bartle, as she was then, joined the YNU and the newly-formed Wharfedale Naturalists' Society (WNS) in 1946. She became WNS Assistant Secretary in 1947 and Honorary Secretary in 1955, continuing until 1977 when she was made an Honorary Life member, apart from two breaks for trips to Australia. She later became an Honorary Life Vice President of WNS. It has been said that Joan ***was*** Wharfedale Naturalists and indeed she was the backbone of the society over a long period. Joan assisted the WNS' first Botanical Recorder, taking over in 1953 when Miss E. M. Brown left the district and was later joined in

this task by Dorothy Marjoram. Joan joined the Botanical Society of the British Isles in 1953 and remained a member throughout her life.

From her biology training, and with YNU help, came much research with the WNS. In 1957-1959 Joan and Mary Dalby recorded the vegetation at Swinsty and Fewston (Duncan and Dalby, 1960). Joan served on the YNU Plant Records Committee and, from 1959, with Mary Dalby, J.H. and A.Fidler and others, began the survey of the plant communities of Ilkley Moor, investigating the decrease in Heather and increase in Crowberry. This resulted in a series of papers in *The Naturalist* (Fidler *et al.*, 1970; Dalby *et al.*, 1971) which are still quoted, and the Bluebell counts in Middleton Woods, begun through concern over recent conifer planting, became a regular part of the WNS programme and a study which anyone could join.

In 1960 Joan was also the YNU Divisional Secretary for VC64, organising the field meetings in that area, moving on to the role of Honorary Excursions Secretary for 1965. She became Chairman of the YNU Flowering Plant Section in 1971 when, with the secretary Dorothy Haythornthwaite, she organised a 'Tetrad' recording scheme for the North and West Ridings "to keep our knowledge of the North and West Ridings up to date and to try to get a more complete picture of the distribution of species than can be given by records based on presence or absence of a species in a 10km square". Eva Crackles was already recording in this format for VC61 and in 1980 Phyl Abbott adopted it for her VC64 Flora (Abbott, 2005). Joan remained as Chairman throughout the 1970s, except for 1974 when Eva Crackles took over for a year while Joan enjoyed her six months 'leave' (as she herself called it) visiting Australia where she had relatives. Joan was elected President of the YNU for 1978 and gave her Presidential Address on 2 December 1978 in Skipton (Duncan, 1979), explaining in the Introduction that she wanted to show "the importance of collaboration between the amateurs and professionals who make up our membership, and the part played by the Affiliated Societies". She, of course, remained a Vice-President of the Union until her death.

As the daughter of an English teacher, Joan wrote well and was involved in writing or editing the WNS publications the *Review* and the 'Nature Trails' - illustrated, of course (Duncan, 1975, 1977 and 1978). She never lost her enquiring mind and enthusiasm for the natural world and encouraged others, both adult and junior members. She wrote *Pennine Flowers* with R.W.Robson (Duncan & Robson, 1977) and also edited *Aunt J* (Duncan, 1999) recording the memoirs of a YMCA volunteer in the First World War. Joan also had a wonderful imagination which was evident in her artwork; she had carried on painting from childhood.

Colin Duncan of Otley joined the YNU in 1951 and, sharing a love of natural history, photography and sailing, Joan and he married in 1957. Before her marriage she attended St John's Church in Ben Rhydding, where she was secretary to the parochial church council, sang alto in the choir and was active in the Social Guild. She later took on similar roles at All Saints' Church in Ilkley and for many years co-ordinated the church's support for missionary work. With Colin and others she laid the foundations of the conservation work and other activities which the WNS does to this day, all part of a lasting legacy.

Joan and Colin joined the Yorkshire Naturalists' Trust (YNT) in 1959, their application for membership being accepted by the Council at its meeting on 23 May 1959 at a time when the numbers joining accelerated markedly from a handful at each meeting to Minutes referring to "see attached list" with many names. Joan was appointed to the inaugural Management Committee for Grass Wood Nature Reserve in October 1961 in expectation of

the signing of a lease for 13 acres in the Dewbottom Scar area from the Forestry Commission, which finally took place in 1963 (though the committee had not been inactive while waiting for the formal signing!). That year the small area of Globe Flower Wood was purchased by the Trust and was managed along with Grass Wood by Paul F. Holmes (Chairman of the Grass Wood Management Committee). Four years later the Brigantian Fort on Far Gregory and its surroundings were added to the lease. The Chairmanship of Grass Wood and Globe Flower Wood passed to D. Bremner in 1965 and then to Joan in November 1969. The Trust bought the 35-acre Gregory Scar section next to the existing area of Grass Wood Reserve in 1972, made possible "by an interest-free loan from Colin Duncan supplemented by generous donations from WNS and YNT members living in Wharfedale" (Anon, 1972). The rest of the wood was finally acquired from the Forestry Commission in 1983, the Trust thus owning 196 acres. This reserve has, thanks in no small part to Joan, always had an active management committee of volunteers both working in the wood and raising funds from coffee mornings, etc.

In 1971, at a time when the YNT was seeking to devolve some its activities in conservation, education, publicity and fundraising to local volunteer groups, Joan was recruited for her local knowledge to the Mid-West Area Group (VC64) under the chairmanship of Dr J. Douglas Pickup. Reorganisation of the Trust committee system resulted in a re-launch of the 'Areas' as Regional Committees and Joan became the Dales Region Chairman in 1989, continuing in this role until 1994 when Deborah Millward took over.

Seeking more influence at the centre of things perhaps, Joan was elected to the Council of the YNT in 1978 (while continuing as Chairman at Grass Wood and Globe Flower Wood, on the Area Group, etc.!) and became a YNT Vice-President (1980) before ably chairing the Council and AGM during her term as President from October 1983 to October 1986, and *ex officio* attending many of the central committee meetings. Her hard work and "quiet leadership", "charm, friendliness and transparent honesty" (to quote two tributes from her former colleagues) greatly helped the Trust at a time of change. This was perhaps indicated by the name-change from YNT to Yorkshire Wildlife Trust (YWT), some internal reorganisation and turmoil, and the expanding work of the Nature Conservation movement necessitating ever more reliance on paid staff. Joan served as Vice-President from 1986 until 1992 when she retired from the Council.

Continuing to lighten her workload, Joan continued as Chairman of Grass Wood but handed responsibility for Globe Flower Wood to Dr.Chris Alder in 1989/90 and finally, in 1993 she handed over the Grass Wood Chair to Audrey Gramshaw, though continuing as a member of the NRMC. It was said at Grass Wood that **three** people took on her Grass Wood commitments to cover her trip to Australia and that whenever Joan gave up a job more than one person had to take it on! In November 1998 Joan Duncan was elected Honorary Life Vice President of the YWT and in 2001 was appointed MBE for her services to Yorkshire wildlife. In her modest way, she had a good deal of pleasure from receiving her MBE and had already had a rehearsal at Buckingham Palace when she accompanied the Yorkshire botanist Dr Eva Crackles to receive hers.

To one of us (A.G.) she has also been an example of how to live a contented old age.

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Audrey Gramshaw and Margaret Hartley

Letter to the Editors

Nesting Kittiwakes and pipefish on Scarborough Castle Headland

Since the annual counts of occupied Kittiwake *Rissa tridactyla* nests from Scarborough Castle Headland have only intermittently appeared in the excellent Annual Reports of the Scarborough Field Naturalists' Society or the YNU Annual Bird Reports, Robin Hopper's paper (*The Naturalist* 137 (2012): 113-115) reviewing historical records and collating data from 1987 to 2011 was a welcome contribution.

During the late 1950s, as a member of Wood End Museum's extremely popular *Junior Naturalists' Association,* I was first introduced to the colony on one of its Saturday morning rambles led by Mike Clegg. We attempted a count of occupied nests but without binoculars found it unexpectedly difficult and abandoned the exercise.

I revisited the headland around five decades later (!) on 18 August 2007, this time equipped with binoculars, and was intrigued to note that many of the Kittiwake nest structures had brittle and bony Snake Pipefish *Entelurus aequoreus* bodies dangling from or matted into them. Hundreds of discarded pipefish were also amongst un-vegetated detritus at the foot of the cliff, beneath groups of Kittiwake nests. These may have been dropped by parent gulls returning to their nestlings or indeed been rejected by the nestlings. Ornithologists will remember that between 2005 and 2007, during a shortage of Sand-eels *Ammodytes marinus*, starving seabird chicks were being fed on an unprecedented glut of pipefish. These were of little nutritive value, proved difficult to swallow and many chicks fatally starved or choked. It was interesting to note that despite those difficult seasons, the Scarborough breeding population continued to increase and spread.

C.A.Howes

Yorkshire Naturalists' Union receives OPAL funding for online recording

Paula Lightfoot, Treasurer

We are pleased to announce that the Yorkshire Naturalists' Union has again been awarded funding through the OPAL Grants Scheme.

In 2011, OPAL awarded the YNU £2,899 to run the Scarborough Bioblitz and to purchase equipment including a microscope, camera, laptop, a variety of identification guides, sweep nets, a bird mike, good quality pond-dipping nets and white trays.

This year, the third and final year of the grants scheme, we applied for £1,590 to add online recording functionality to the YNU's new website. This would enable YNU members and other naturalists in Yorkshire to enter wildlife records directly into the YNU website, together with photographs if they wish. The records would be stored securely at the Biological Records Centre in Wallingford, verified by YNU Recorders or other experts and made available promptly to national recording schemes and local records centres to improve our understanding of species distribution and to support research and conservation initiatives. The OPAL grants panel felt that our proposal was a good fit with the theme of the final round of funding, which aimed to support projects that will improve the way natural history groups can work in the long term, enabling them to continue and expand their work in the future.They agreed to provide the full amount of funding requested, making it possible to set up the system in time for the 2013 field season.

The data audit carried out by former Biological Records Officer Hannah Droop was incorporated into the application and was crucial to the success of this funding bid, as it provided a thorough review of data management and data flow within the YNU together with clear recommendations for improvement. The Natural Sciences Committee will oversee the development of the YNU's online recording system to ensure that it meets the needs of all Sections with regard to data capture, verification and onward data flow. All Section Heads will be consulted and a dedicated steering group may be set up if this is considered useful.

The YNU's online recording website will be created using Indicia software and will be linked to the Biological Records Centre's iRecord website (www.brc.ac.uk/iRecord). The iRecord website enables experts to view and verify records that have been entered directly into the site as well as those captured through other websites and smartphone applications linked to iRecord. Other organisations which use Indicia-based online recording systems linked to iRecord include the Bees, Wasps and Ants Recording Scheme, the Orthoptera Recording Scheme, the Mammal Society, the GB Non-Native Species Secretariat and the British Dragonfly Society.

If any YNU Recorders would like to use the iRecord website to access and verify records within the YNU's recording area, please e-mail irecord@ceh.ac.uk with a request to be set up as a verifier for your chosen region and taxonomic group. Full instructions are provided and support is available.

Data captured through iRecord, and through other online recording systems linked to it have already been made publicly available via the NBN Gateway. These include the UK Ladybird Survey, which includes recent records made by YNU recorders at Nosterfield LNR and other Yorkshire sites and which have been verified by the scheme organiser, Dr Helen Roy. Another example is the Nature Locator dataset, which consists of records of invasive plant species captured through the Plant Tracker mobile phone application. This includes

Yorkshire records of Himalayan Balsam, Giant Hogweed, Floating Pennywort, Rhododendron and Japanese Knotweed. One record of Japanese Knotweed on the North York Moors is dated 21 October 2012, just one week before the dataset became publicly available over the internet, clearly showing the potential of online recording to improve the efficiency of data flow.

The integration of online recording into the YNU website will raise our profile and bring more visitors to the YNU website, which we hope will help to increase membership of the YNU as well as enabling us to receive and mobilise more records and strengthen our links with national recording schemes and the Biological Records Centre.

Finally, it is important to note that online recording does not replace or bypass County Recorders or local records centres, it is merely another way of getting records to them. It will sit alongside other methods such as sending records on recording cards or via e-mail or MapMate. However, use of online recording is increasing rapidly and the YNU will benefit from this timely opportunity to develop a system tailored to our requirements.

From pear trees to pipers

M. Jill Lucas 8 Camborne Drive, Fixby, Huddersfield. HD2 2NF

From Christmas-tide to New 'us-tide
The days do get a cock's stride.

When I want to research something I go along to the library and, when I have obtained the information I need (or not), my mind, being of the grasshopper variety, goes down all sorts of channels discovered whilst searching for whatever it was I was searching for originally. Take, for example, *The Twelve Days of Christmas:* now a carol and prior to that a song and originally a game of forfeits, depending on your source. We sing familiar songs because we know the lyrics and the melody, but do we really think about what the words mean? Apart from the word 'Christmas' what has the variety of birds in *The Twelve Days of Christmas* to do with the festive season? Virtually nothing!

According to one source, it is believed to have its origins in France and was not a song but a game. The first printed version as a song appeared in 1780 in a book titled *Mirth without Mischief*. A second source states that Catholics were forbidden to openly practise their faith between the last half of the 16th and the first quarter of the 17th centuries and so young Catholic children learnt the Catechism from this song which was later to become a carol. A third explanation states that it is a nonsense rhyme for children!

In the Catechism explanation the opening line - 'On the first day of Christmas my true love sent to me', my true love represented God. The 'partridge in a pear tree' was Jesus Christ. I do not know why it was in a pear tree as this bird is an inhabitant of farmland, moors, sand dunes, etc. However, the French for partridge is Perdrix, the pronunciation of which is peardree. The French or Red-legged Partridge could be the one meant but the Grey Partridge is more common in France. The scientific name for the Grey Partridge is *Perdix perdix* and for the Red-legged it is *Alectoris rufa*. So which is it? You 'pays your money

and takes your choice'. An alternative story involves Greek mythology. Perdix, a young Athenian who invented the saw, was thrown from a high tower by his jealous uncle but the goddess Athene turned him into a bird and lifted him to heaven in a pear tree's branches.

The two testaments, the Old and New are represented by Turtle Doves. In Christian art the dove symbolises the Holy Spirit, yet the squabs (young pigeons) were reared and eaten. None of my ornithological friends is able to name a particular bird as a French hen but the three of the song are believed to signify faith, hope and love.

The four calling birds are said to be the four Gospels of Matthew, Mark, Luke and John. Strictly speaking, the four calling birds should be colly birds. Colly was an old popular name for the Blackbird and is derived from colly or coal black, that is the black grime of coal. Perhaps there is a tenuous link here to the well known nursery rhyme 'Sing a song of Sixpence' with its reference to the 'four and twenty Blackbirds baked in a pie'. In French folklore the bird's plumage was originally pure white but one day he met his friend the Magpie who had a pocketful of gold which had been given to him by the Prince of Riches. The Blackbird said he too would like to have some wealth, so arrangements were made for the Prince and the bird to meet. The latter was warned not to take anything from the cave in which the Prince lived. However, unable to resist temptation, the Blackbird dipped his beak into the gold and immediately a black smoke-devil drove him out of the cave and, on emerging into the light, the once pure-white feathers had become pitch-black from the smoke, his beak was stained yellow from the gold and the bird's startled cry is a reminder of the fright given him by the devil.

The five gold rings are said to represent the first five books of the Old Testament. The gold rings could possibly refer to the rings around the necks of cock Pheasants. However, Little Ringed and Ringed Plovers also have neck-rings but in none of these birds are the rings golden. The six geese a-laying represent the six days of creation. Before the introduction of turkeys, farmyard geese, originally bred from wild Greylags, were eaten at Christmas. The seven swans a-swimming symbolise the seven gifts of the Holy Spirit i.e. contribution, exhortation, leadership, mercy, prophesy, serving and teaching.

The Beatitudes are signified by the eight maids a-milking but, continuing the bird theme, these could be Nightjars. There was an ancient, classical belief recorded by Aristotle that the birds sucked the udders of nanny goats. The bird's generic name is *Caprimulgus* from *Capri* - she goat, and *mulgeo* - to milk. Hence a colloquial name for this bird is Goat-sucker. However, Gilbert White, the famous naturalist vicar of Selborne, called the bird a Fern Owl because, like most owls, it flies at night. It is insectivorous, and goats' manure, and more particularly cowpats, are liable to contain many insects, so this may be the origin of the legend. Milkmaids would make a soothing noise to calm the beasts whilst they were milked and there is an old saw which states "A whistling maid, a crowing hen is fit for neither beast nor man". A whistling maid was a synonym for a witch. So, are the maids Nightjars, witches or, as the carol states, maids-a-milking? The nine fruits of the Holy Spirit: faithfulness, gentleness, goodness, joy, kindness, love, mercy and self control are symbolised by the nine ladies dancing. However, Great Crested Grebes have a very graceful courtship dance so perhaps the nine ladies are Great Crested Grebes.

Ten lords a-leaping refers to the Ten Commandments and, by a stretch of the imagination, think of birds which leap, particularly during courtship. Great Bustards jump and part of the male Black Grouse and Capercaillie's courtship displays is to leap into the air. Eleven pipers piping are a reference to the disciples and again some avian species could

be said to pipe - including Little Ringed Plover, Curlew, Meadow Pipit, Dunnock or Hedge Sparrow and Oystercatcher.

Finally, the twelve drummers drumming is a reference to the Apostles' Creed. The Great Spotted Woodpecker or Snipe may be meant here as both species drum; the woodpecker on wood, the Snipe in display flight.

Acknowledgements
My thanks to M.L. Denton and Dr D. Lloyd for their help with the habitats and habits of the various birds mentioned in the text.

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NBN honour for YNU President

At the NBN Annual Conference at the Royal Society, Carlton House Terrace, London, on 23 November 2012, YNU President John Newbould was elected an Honorary Member of the National Biodiversity Network Trust. He is one of just eight people and of an even smaller number of amateur naturalists who have received this award, which was "in recognition of his long term-term dedicated support for the study of natural history and especially his support of amateur biological recording".

Professionally John worked for around 40 years, mainly in South Yorkshire, as a community pharmacist. He now lives in Weymouth and spends much time surveying the many National Trust properties in Dorset for local teams and with National Consultancy under Andy Foster. He is also a Trustee of Dorset Environmental Records Centre, Field Secretary of Dorset Natural History & Archaeological Society and Secretary of the National Federation for Biological Recording. He assumed the 2012-13 Presidency of the YNU at the AGM on 24 November 2012.

In receiving the award from the Chairman of the NBN Trust, Professor Michael Hassel CBE (see left), John commented that he recognises the award not just for his own recording activities but also for all the volunteers who collect wildlife information in all weathers, efforts which enable the NBN Trust to display information from over 80 million records.

Book review

Big Cats - Facing Britain's Wild Predators by Rick Minter. 2011. Whittles Publishing, Dunbeath. Pp214, ISBN 978-184995-042-8

"We receive occasional reports from members of the public of alleged `big cats'. However none of the sightings have ever been confirmed and the evidence we have been asked to look at has either been unsubstantiated or has been attributed to other causes. ...We are confident that there is no breeding population of big cats in this country." This opinion of Natural England, quoted in the book, probably coincides with that of many, even most, field naturalists. The plethora of big cat sightings, and the book reveals there is a very large volume of them, is put down by the sceptical naturalist to defective observations by untrained observers bolstered by a strong desire, amounting to a psychological need, to believe that beneath the safe surface of urban existence lurks the unseen and untamed; not necessarily a source of fear but rather of wonder and in any case a reminder of the limits of civilisation in the face of nature. If big cats didn't exist in our cities and countryside they would have to be invented.

The sceptic's perspective is that they do not exist and have been invented. The evidence for this position is stated in a number of rhetorical questions. If big cats exist then where are the road-kills? It didn't take long for the escaped Wild Boars to write off a few Chelsea tractors. Where are the remains of their prey, their spoor-prints and their scats? Why are all photographs and videos of alleged sightings out of focus or fuzzy? Why are these cats only seen by inexperienced observers? Where did they come from? A few over-grown household pets discarded by irresponsible owners are unlikely to last long. What species are these big cats supposed to be and why are they usually black?

Naturalists and other sceptics should read this book. Written by a well-known conservationist and long-time editor of a major conservation journal, *Ecos*, the subject of big cats in Britain is carefully examined in all its facets and the evidence critically evaluated. All of the above rhetorical questions are considered in depth and the answers turn out to be much more complex than one might have supposed. In several cases, the assumptions underlying the questions are shown to be wrong. Thus there have been road-kills but not many and carcases don't last long. Furthermore, they are not going to be blindingly obvious since big cats, at least the species involved here, are not that big – not much more in fact than overgrown moggies, and they don't exist in large numbers - they are after all top predators. Typical prey items are Rabbits, deer and Foxes, not horses and cattle. Although sheep are occasionally attacked the presence of large cats is, on balance, probably more beneficial than harmful to livestock and the attitudes of farmers who have encountered them reflect that fact. There are plenty of sightings of all the visual remains of their activity including, especially, eaten-out deer carcases, while by no means all observers are inexperienced; the list ranging widely from recognised naturalists, various types of countryside wardens through to policemen. There are plenty of photographs as well, although they are often hard to interpret. The Forestry Commission has even recorded big cats on two occasions on remote sensor cameras.

The author believes that disbelief in the presence of big cats from the naturalist community derives from a different but equally powerful psychological need to that driving the observers; the desire for certainty. The natural history community, he argues, needs to know what is in its patch and the idea that there are large and powerful animals there that they know nothing

of is unacceptable to them. Hence anybody claiming to have observed a big cat must be wrong. In the author's view it is high time that this nonsense stopped. The evidence that there are some large felines living wild in Britain is overwhelming and it is time to decide what to do about it. What is needed is some proper research to determine how many and where, the genetic make-up of the population and its viability. Research is needed as a basis for the formulation of policy; he calls it a covenant with cats. A rational debate leading to a covenant will be needed in any case if we are to carry out our obligations under the Habitats Directive to re-introduce extinct mammals such as the European Lynx back in Britain. But, as we have seen with Wild Boar, Coypu and Ruddy Duck, DEFRA is controlled by Daleks. A rational debate on the more exotic aspects of British wildlife is going to be hard to get.

JKB

YNU Notice

Whitby Centenary Bioblitz

The Whitby Naturalists Club celebrates its centenary in 2013. As part of the centenary programme, it will be holding a Bioblitz over 24 hours, finishing at 4pm on Saturday 22 June. The event will be centred on Whitby Museum and will include a number of open activities including shore surveys, moth trapping, bird ringing demonstrations, botany walks and insect collecting. Microscopes will be set up in the Museum, where specimens can be examined and identified.

The recording area is bounded by N-S gridlines NZ88 and NZ92, the E-W gridline NZ10 and the North Sea. It covers a range of habitats such as rocky and sandy seashore, tidal estuary, sea cliffs, parkland, agricultural land, some woodland and a small area of saltmarsh.

YNU members would be very welcome to help with species recording and identification or to participate in open activities. If anyone would be prepared to lead an event in his or her field of expertise then please contact us. Information will shortly be available on the Whitby Naturalists' website http://whitbynaturalists.co.uk/events.php; for more details, please email wendy.english@btopenworld.com.

Report from Wyke Beck

The first Wyke Beck Valley Wildlife Discovery Week took place in late May and early June 2012. The event was styled as a 'Bioblitz' and participants worked with local naturalists and volunteers to identify as many species as possible within the given time period. Over the course of the event 620 species were recorded, including Speckled Bush Cricket *Leptophyes punctatissima* (see Plate VII, centre pages), which has never previously been reported in Leeds, as well as ten species of ichneumon new to the city. Over 500 people took part in the event which was organised by the Wyke Beck Valley Pride project in east Leeds, a three-year project aiming to help local communities benefit from better access, more information and opportunities for involvement in the life of the Valley. This includes improved environmental quality for people and wildlife in the green spaces from Roundhay Park to Rothwell Country Park through Gipton, Seacroft, Killingbeck, Primrose Valley and Halton Moor. The Valley contains a number of habitats including amenity grassland, mature and plantation woodland, unimproved meadow, hedgerows, ponds and the Wyke Beck itself.

The main purpose of the event was to engage local people with their nearby green spaces and to draw attention to the fact that urban areas can support a wide variety of wildlife. Many of the areas within the valley have never been surveyed, and raising awareness of the local wildlife has a direct influence on the value placed on these areas by the residents. The emphasis was on activities that were accessible to the community such as pond dipping, 'mini-beast' hunts, guided walks and treasure hunts. Surveys were undertaken by groups from schools, businesses and community groups and supported by local naturalists who kindly volunteered their time and expertise. A repeat event is planned next year.

The Wyke Beck Valley Pride project is funded by Natural England through Access to Nature as part of the Big Lottery Fund's Changing Spaces programme, Leeds City Council and Green Leeds and is being run as a partnership between members of the community, the Wyke Beck Valley Community Forum, Leeds City Council, TCV Leeds, Groundwork Leeds, Voluntary Action Leeds, and Ahead Partnership.

For more information on the Wyke Beck Valley Pride project please contact John Kilner, Project Co-ordinator on 0113 2380601 or visit www.wykebeckvalleypride.org.uk

John Kilner

Additional note (Bill Ely)

My boyhood was spent in the lower part of the Wyke Beck valley and the opportunity to return to my roots was one that I could not resist. I attended the events at Arthur's Rein (SE3436) and Wykebeck Woods (SE3336) and at Halton Moor (SE3333) and Primrose Valley (SE3533 to SE3433), which were where I had lived. The 10km square SE33, including east Leeds, was adequately recorded for ichneumons with 70 species on the YNU database but these records were many years old, so this was an opportunity to add some more recent ones. Sixteen additions were made, including ten new to the Leeds list: *Aclastus eugracilis* at Arthur's Rein and Halton Moor; *Endasys minutulus* at Halton Moor; *Stilpnus tenebricosus* and *Mesoleptus vigilatorius* at Arthur's Rein; *Polytribax arrogans*, *Tersilochus obliquus*, *Orthocentrus monilicornis* and *Collyria trichophthalma* at Primrose Valley were also the first records from VC64 and the *Tersilochus* was only the third Yorkshire record; and *Cyclolabus nigricollis* at Arthur's Rein. A cocoon of the braconid *Dinocampus coccinellae,* a ladybird parasite from Wykebeck Woods, was also new to both Leeds and VC64.

Yorkshire Naturalist's Union Excursions in 2012

Compiled by
Albert Henderson and **Adrian Norris**

The year's Excursions were a great success apart from the poor turnout at the rain-affected VC65 meeting at Foxglove Covert.

Fairburn Ings RSPB Reserve (VC64) 19 May 2012
(NGR Centrum SE452278)

THE SITE & ITS HISTORY (Terry Whitaker)
The area of Fairburn and Newton is where the higher ground on the Magnesian Limestone meets the low marshy land adjacent to the River Aire. By 1159 the manor at Newton belonged to the Walleys and, for at least seven generations, this family occupied the moated manor house which became known as Newton Abbey The last fragmentary ruins of this building have now almost disappeared in the marsh of the Reserve south of Newton Farm. Several quarries were opened to exploit the limestone and the village became "noted for its extensive quarries of excellent limestone and alabaster suitable both for plaster and funeral monuments". One of the few ways of transporting the stone was by canal. The nearest river is the Aire, which is at the south side of Fairburn, while the quarries were on the north side. An underground railway was built and by 1822 was in full operation under Fairburn. Later a canal, the 'Cut', was dug on the eastern edge of what is now the Reserve, to the Ferrybridge to Allerton Bywater section of the River Aire which had been incorporated into the Goole to Leeds canal system. The Aire forms part of the Aire & Calder Navigation as far west as Mickletown and was, therefore, a canalised river, connecting the West Riding with the Humber ports. Although the connection with the River Aire has been filled in for many years, about four hundred yards of derelict canal and the terminal basin below Fairburn village, known as 'Fairburn Cut', are still clearly definable. The Fairburn Railway, which bounds the eastern end of what is now the Reserve, was opened in 1840 and, after about 20 years, rail transport superseded the canal as far as the quarries and lime works were concerned; the tunnel ceased to be used and became the derelict curiosity whose entrance can still be seen beyond the top of the 'Cut'. The hummocks in the orchard nearby are the remains of lime kilns. During the general strike of 1926 the solid stone mount supporting the brake-wheel, round which the incline cable pulled trucks through the tunnel, was hauled up by horses and erected on a plinth to become the village cross in Gauk Street.

Sometime between the 17th and 19th centuries the marshy land at Fairburn and Newton appears to have been drained and turned into farmland which flooded only when the river was exceptionally high, although some shallow coal pits had been sunk on the site by the 19th century. Several collieries were opened in the district at Fryston, Wheldale, Allerton and Ledston (Luck). Deep mining as we know it only commenced in 1868 when the Wheldale Colliery was established. In 1869 the Merefield, later the Glasshoughton, Colliery was sunk and Fryston Colliery followed in the early 1870s. Wheldale and Fryston collieries south of the River Aire are associated with Fairburn. These extensive deep mines were worked under the Reserve area, the river becoming more and more important to the collieries along its banks, but subsidence and frequent flooding were causing problems. In 1892 the Aire & Calder Navigation Co. and the Wheldale Coal Co. agreed to build a watertight flood bank of colliery waste along the bank of the river between Wheldale Farm and Wheldale Basin, and this was successful for a time. Three brothers called Greaves rented the Fairburn Estate shooting

rights from the trustees of Lord Palmerston's estate in 1898 the youngest of these brothers has recorded that the effects of mining subsidence began to show at the turn of the century by increased areas of marsh and open water. Land between the Newton-Fairburn road and the river became the haunt of wildfowl, at first only surface feeders; diving ducks arrived when the stretches of open water became deep enough. By 1913 the maintenance of the canalised river was again proving difficult and, in November, another agreement was made between the Aire & Calder Navigation Co. and the Wheldale Coal Company - this time for slag banks to be built all along the northern bank of the river from Wheldale to the railway viaduct. Mining subsidence must not have occurred to any appreciable extent until about sixty years ago but, with further subsidence, the extent of marsh and open water increased and the National Coal Board acquired the land, by then regarded as fit only for tipping. Its increasing importance as a wildfowl refuge, unique in Yorkshire, was recognised by naturalists in Yorkshire in the late 1950s. The collieries closed at Fryston in 1985, Glasshoughton in 1986 and Wheldale in 1987. Castleford now has no working coal mines.

THE RESERVE

Robert (Bob) Dickens had a major influence on nature conservation in West Yorkshire after he moved to the region to teach. A nature-lover who helped co-found Fairburn Ings Nature Reserve, he died at the age of 91 in 2010. He was a founder and former President of both the Castleford and District Naturalists' Society and the Leeds Bird Watchers' Club (now sadly defunct).

In the late 1950s mining subsidence caused ponds and lakes to appear on Fairburn Ings. They soon attracted wildlife and, with fellow enthusiast Douglas Pickup, Bob Dickens persuaded the West Riding County Council and the National Coal Board to designate the area as a nature reserve, administered by the RSPB.

THE MEETING (Terry Whitaker)

April and most of May 2012 were unusually cool and wet. The night of the 18th was cold, wet and windy. On Saturday the poor weather continued, with 8 degrees C maximum, cloud and with a strong NE breeze. Twelve stalwarts made the best of it. Members of 13 affiliated societies attended the reporting meeting which took place in the RSPB Fairburn Ings Visitor Centre. Thanks were voiced to the landowners, Leeds City Council, and to the RSPB and its staff, especially Karen Swafield who greatly assisted the moth trappers and made life easy for the excursion organiser.

MAMMALS (Terry Whitaker)

Five mammals were recorded in the grid square SE4527: Molehills; Rabbit with plenty of signs of them being common; Bank Vole; Brown Rat; Grey Squirrel. (A Common Frog was also seen). In addition, whilst doing the reconnaissance on 03 May 2012, TMW saw a single Roe Deer in the same square.

MOLLUSCS (Terry Crawford)

I searched six 1 km squares on the reserve. Seventeen species were recorded on the reserve, none of them particulary noteworthy. There were few molluscs except in the area of the Visitor Centre and at the far south-western tip of the reserve near Ledston Ings, where there was an abundance of Helicidae (Copse Snail *Arianta arbustorum*, White-lipped Snail *Cepaea hortensis*, Brown-lipped Snail *C. nemoralis*, Common Garden Snail *Cornu aspersum* and Kentish Snail *Monacha cantiana*) active on the low-growing vegetation of the former railway lines.

I also visited Newfield Plantation, due north of the main entrance to the reserve. This yielded 12 species, three of which had not been found on the reserve: Plaited Door Snail *Cochlodina laminata* and Lesser Bulin *Merdigera obscura*, both characteristic of base-rich broadleaved woodlands, and two individuals of the very small Wall Whorl Snail *Vertigo pusilla* found under Ivy by a wall, a very significant record. This last species has a distribution concentrated on the limestone areas of north Lancashire and south Cumbria and the adjacent far north-western areas of the Yorkshire Dales. There its typical habitat is mossy, ivy-covered dry-stone walls under trees. Elsewhere in the UK there is a very thin scattering of records in more natural dry and undisturbed habitats, and strong evidence of decline from Postglacial times to the present. Many records are old, although there are three recent ones from the edges of the North York Moors. A sample of snails collected at Brockadale by Charles Ashford in 1874 contained *V. pusilla*. All subsequent attempts to find it at Brockadale, or elsewhere on the Magnesian Limestone, have failed and it has been thought that Ashford's specimen was likely to be a contaminant from another sample (Adrian Norris, pers. comm.). I returned to the site the following Saturday and quickly found a further four specimens. The rest of the day was spent searching other broadleaved woodland in the area, but without success. The extent of the Newfield population needs further investigation.

LEPIDOPTERA - Moths (Charles Fletcher)
The YNU Lepidoptera Group was invited to set up moth traps on the Friday night. Moth-trapping in May can be a hit-or-miss affair and the weather was not kind. A prolonged spell of cold northerly winds had delayed moth emergence in the previous few weeks and Friday brought more cold winds coupled with persistent overnight rain. Undaunted, the team erected one actinic and five MV traps but the catch on Saturday morning was poor with the 'grand' total of 20 moths of eight species.

The most interesting find was a single Seraphim, the first for the Fairburn Reserve. The larvae feed on Aspen which is plentiful at this site. Other moths were common species which had been recorded here before. A Common Footman larva was found on the Saturday. The most interesting microlepidoptera were found in the daytime. Several teasel heads contained the larvae of *Endothenia gentianaeana* and a single *Aethes smeathmanniana* was disturbed from vegetation. The day-flying Green Longhorn moth was seen in two areas. Larval cases of *Coleophora serratella* were common on birch but larval mines of the birch-feeding *Eriocrania* species were very infrequent.

Although the catch was poor, there were other benefits. The team of wardens at Fairburn have a moth trap which they intend to use more regularly and they have been encouraged to submit records to the YNU recorders.

ICHNEUMONS (Bill Ely)
The light traps attracted the orange moth parasite *Ophion obscuratus,* a frequent catch in such traps but, even though May is the change-over period between winter and summer forms, this is the first time that I have seen both in the same catch. There was also an example of the hoverfly parasite *Syrphoctonus pallipes*, which must have been disturbed and blundered into the trap, as it is not normally nocturnal. The vegetation dried after noon and a further six species were collected. The Pimpline *Scambus signatus* is a moth parasite recently recognised as a split and is the first VC64 record of this taxon while *Tromatobia lineatoria* is a spider parasite which is common in VCs 61-63, but the only previous VC64 record was in 1934. The Cryptine *Aclastus solutus* is common and widespread but *Stilbops vetula* has only been found in VC64 once before, in 1934. The pollen beetle parasite *Tersilochus cognatus* and the hoverfly parasite *Syrphoctonus tarsatorius* are common

species but only three ichneumons were previously recorded from Fairburn Ings so all eight found on this excursion are new to the Reserve list. *Tromatobia lineatoria*, *Tersilochus cognatus* and *Syrphoctonus pallipes* are also new to the Leeds district. A copy of these records has been deposited with West Yorkshire Ecology, which provides a biological records service for the Leeds district.

OTHER INSECTS (Bill Ely)
The plantations held a few insects including Birch Shieldbug *Elastomus interstinctus*, Parent Bug *Elasmucha grisea*, Birch Catkin Bug *Kleidocerys resedae* and the large black-and-red froghopper *Cercopis vulnerator,* whose cuckoo-spit is formed underground on tree roots. 7-spot Ladybird *Coccinella septempunctata*, Harlequin Ladybird *Harmonidea axyridis* and 14-spot Ladybird *Propylea quatuordecimpunctata* were also noted, as well as Common Carder Bee *Bombus pascuorum*, Early Bumblebee *Bombus pratorum* and White-tailed Bumblebee *Bombus lucorum*, whose hairy bodies keep them warmer than most insects and allow them to forage even in the cold conditions experienced on this day.

SPIDERS (Terry Whitaker)
Four spiders were collected by the group in the grid square SE4527 and given to me in one pot. Unfortunately, this resulted in only three spiders including a very large and replete female Garden Spider *Araneus diadematus*! I identified this and *Tibellus oblongus* without difficulty but the third is a very dark *Steatoda* sp. with no dorsal abdominal white markings and distinctly banded legs. I have tentatively ascribed it to the dark form of *S. albomaculata* but, as that appears very rare in our region, it could possibly be *S. bipuncta*.

FLOWERING PLANTS (Phyl Abbott)
137 plants were recorded during the course of the day in the grid square SE4527 but, because of the recent inclement weather, there were others which were insufficiently developed to be identified with certainty and we were too early for aquatic species. Another visit later in the year might be quite productive. The site is on the edge of the Magnesian Limestone and Coal Measures Sandstone which gives scope for a diverse flora.

It was good to see several small bushes of Spindle *Euonymus europaeus* and then a handsome Borage *Borago vulgaris* at the top of the riverbank. Later, on the lower slopes, we saw several Field Pansies *Viola arvensis* and two minute plants of Common Fiddleneck *Amsinckia micrantha*. Two people headed towards Newton Ings and located Spiked Sedge *Carex spicata* and Wild Clary *Salvia horminoides*.

Sadly, Indian Balsam *Impatiens glandulifera*, Giant Hogweed *Heracleum mantegazzianum* and Japanese Knotweed *Fallopia japonica* have found their way onto the reserve and they always prove difficult to remove. Another visit two weeks later enabled me to identify Bur Chervil *Anthriscus caucalis,* which is new to VC64.

Foxglove Covert (VC65) 16 June 2012
(NGR Centrum SE163974)

INTRODUCTION (Deborah Millward)
A full report on the 1995 Excursion to Foxglove Covert appeared in 2000 in *The Naturalist* 125 (1035):184-186.

MOLLUSCS (Tony and Moira Wardhaugh)
On a damp day following a good deal of recent rain molluscs were active with considerable numbers of some species crawling on tree trunks, notably the Dusky Slug *Arion subfuscus,* the Strawberry Snail *Trochulus striolatus* and the White-lipped Snail. Numerous juvenile Brown Snail *Zenobiella subrufescens* were notable, typically on the leaves of Butterbur *Petasites hybridus*, this snail being associated with old woodland. A population of the small freshwater Nautilus Ramshorn snail *Armiger crista,* lacking the usual series of regular transverse ridges on the shell (var. *laevigata* of older authors), was found in one of the ponds by Risedale Beck. In total, 20 terrestrial and seven freshwater molluscs were recorded during the day. All of the latter were from ponds on the reserve, Risedale Beck being in spate and not easy to investigate; indeed we were witness to a loud crash as part of the bank collapsed into the river during the afternoon. The reserve occupies parts of four 1km squares and in total 57 monad records were obtained.

FLOWERING PLANTS (Deborah Millward)
Knowing much of the reserve quite well, we headed for the comparatively new wetland. Recording in the rain was unappealing but a raft of Pond Water-crowfoot *Ranunculus peltatus* was in full flower and Common Cottongrass *Eriophorum angustifolium* was showy. Otherwise only Tufted Forget-me-not *Myosotis laxa*, Marsh Cinquefoil *Comarum palustris,* Common Vetch *Vicia sativa* ssp. *segetalis* and Marsh Stitchwort *Stellaria palustris* drew attention, the latter quite uncommon in these parts. Sedging was more rewarding with 10 carices noted: Glaucous *Carex flacca,* Carnation *panicea,* Common *nigra,* Flea *pulicaris,* Bottle *rostrata,* Pale *pallescens,* Star *echinata,* Long-stalked Yellow-sedge *lepidocarpa,* Oval Sedge *leporina* and White Sedge *canescens*. Pepper-saxifrage *Silaum silaus* was still evident (leaves only) by the Sand Martin House and Northern Marsh-orchid *Dactylorhiza purpurella* had spread across the 'heath' since I last visited 10 years ago.

Tophill Low (VC61) 7 July 2012
(NGR Centrum TA072484)

INTRODUCTION (Sarah White)
Recent heavy rain had brought flooding to parts of the county but we were lucky enough to have a day of warm sunshine. 25 members and guests, representing 13 affiliated societies, gathered for coffee and an introductory talk from Richard Hampshire, the Yorkshire Water reserve warden. After exploring the reserve we assembled again to share the findings of the day over tea at the Visitor Centre. The last YNU Excursion to Tophill Low was in 1979 and our visit was therefore well overdue. The reserve has clearly benefited from the excellent management that it has received in the meantime and it is a very important focus for wildlife in the Hull Valley. Thanks are due to Richard Hampshire for all his advice and preparation which made the day so successful and to his volunteers who made us welcome and provided background information.

BATS (Anthony Lane)

All nine species of bat resident in VC61 have been recorded at Tophill Low Nature Reserve by East Yorkshire Bat Group. A bat-box project has been operational on site since September 1992, when 27 wooden boxes were erected on poplars to the north of the D-reservoir. These boxes are routinely monitored for usage twice yearly in April/May and September/October. Bat droppings were first noted in May 1993 and the first Soprano Pipistrelles *Pipistrellus pygmaeus* were seen in September 1993. Since then additional species have been recorded, including the Common Pipistrelle *P. pipistrellus,* Nathusius' Pipistrelle *P. nathusii* (a seasonal migrant from mainland Europe, first recorded in 2008 and in all subsequent years), Whiskered Bat *Myotis mystacinus,* Brandt's Bat *M. brandti,* Natterer's Bat *M. nattereri* (first noted in 2011) Noctule *Nyctalus noctula,* and Brown Long-eared Bat *Plecotus auritus.* Despite not having been recorded utilising bat boxes, Daubenton's Bat *M. daubentoni* can usually be seen or heard feeding over the abundant open water areas. The number of bat boxes employed has been substantially increased over the years and other locations towards the 'O' reservoir monitored for bat usage. To date the bat boxes are used largely for mating but not maternity purposes. However, several of the private residences and the Visitor Centre are home to a maternity colony of Sopranos in excess of 100 females which has been increasing steadily. The variety of habitats found at the Reserve has resulted in a rich abundance of insects which are exploited by bats and birds.

BIRDS (Ken White)

A total of 58 were recorded. A particular highlight was a pair of Avocets with 3 chicks, which is a first breeding success for the Reserve. At one point a male Sparrowhawk approached the chicks and was rapidly seen off by the parents, as were a passing Oystercatcher and Common Tern. There was a flock of more than 200 Tufted Ducks on 'D' Reservoir, unusually 'bunched' together. We can only think that this was in response to the presence of a predator, possibly the Buzzard circling nearby. Interestingly this flock of duck comprised over 90% male birds and we presumed that the females and families were on nearby ponds and gravel pits. Indeed, we saw a female Tufted Duck with three young on South Marsh East. Appropriately enough we had good views of a Kingfisher from the Kingfisher Hide and narrowly missed seeing a Water Rail, which had been photographed earlier that morning by local photographers. We had a close encounter with a hunting Barn Owl at the northern end of the reserve and were told there were two nestlings, recently ringed. Besides the Sparrowhawk and Buzzard we also saw Kestrel and Hobby. There was a good range of warblers: Blackcap, Whitethroat, Garden Warbler, Chiffchaff, Willow Warbler, Reed Warbler and Sedge Warbler. We were also delighted to see two Yellow Wagtails feeding along the reservoir wall.

HERPTILES (Matthew Walker)

A five-hour search of the Nature Reserve produced 10 Grass Snakes and approximately 15 Common Toadlets. In the morning at one of the Reserve's purposely placed hay piles, located west of the 'O' reservoir on the circular path, a member of the public encountered a Grass Snake (unknown sex) basking in the tall grass near a complete dry sloughed skin (male), and in the afternoon another one (also unknown sex) was spotted at the same location. Three more (unknown sex) were spotted in the morning by the public at one of the larger hay piles located to the east of the 'O' reservoir on the same path, adjacent to some paving slabs and a large reed-bed, and later in the afternoon we spotted another three (all female) basking in the tall grass. The latter included a dead one coiled up in the long grass behind the fence post. A large male was also encountered in the afternoon crossing the road that leaves the reserve. It is not surprising that nearly all the Grass Snakes were

concentrated near the provided hay piles, because the survey was conducted towards the end of the egg-laying season, and more would probably have been spotted if the temperature had been cooler. However, this suggests that providing the purpose-built hay piles is successful in establishing ideal breeding conditions. It should be noted that the weather was very hot all day but cooled down by the afternoon, therefore it is possible that some of the specimens encountered in the two sites previously mentioned may have been the same specimens regulating their body temperature. Approximately 15 Common Toadlets were encountered in the tall grass between a public bench and reed-beds in the marshland to the south of the Reserve.

MOLLUSCS (Adrian Norris)

The three section members examined six 1km squares and produced a total of 124 individual records covering a total of 44 species. The area was too large to visit all of its numerous sites and it was felt that more time was needed to get a more rounded picture of the Mollusca of the area. The high water levels of the River Hull and its canal left us feeling we had missed some species. Similarly, time did not allow us the opportunity to examine the Mollusca of the Barmston Main Drain which borders the Reserve.

Both the River Hull and the Barmston Main Drain have an impact on the Reserve. Signs of flooding as a result of the River Hull overtopping its banks could be found in nearby wetland areas. The presence of broken shells of the Duck Mussel *Anodonta anatina* on the main drive indicated that the drain was used as a major food source by birds and mammals. Some grassland and dry habitat species occurred commonly in and near the main reservoirs. In particular, both Eccentric Grass Snail *Vallonia excentrica* and Ribbed Grass Snail *V. costata* proved to be common and widespread, and Striped Snail *Cernuella virgata,* a dry habitat specialist, occurred in many areas. Outside the main rivers and drains freshwater molluscs proved to be sparse but it might have been interesting to examine the main reservoirs for the presence of freshwater mussels.

LEPIDOPTERA (Terry Crawford)

Fourteen species of butterflies were noted, which was good in such a generally poor season. Large Skippers were widely distributed, whereas the few Small Skippers were freshly emerged. Other highlights were a Brown Argus, two Marbled White and small numbers of Common Blue and Small Heath. A Robinson light-trap is regularly run on the Reserve and the morning's catch was just 25 moths of 18 species, again reflecting the poor season. All of these were common, although an Eyed Hawk-moth was an attractive bonus. A further five moths were observed during the course of the day, including singles of the Fenland Pearl and the noctuid Blackneck, both local moths that are expanding their ranges.

PLANT GALLS (John Newbould & Tom Higginbottom)

The site is some 50 years old and there are many introduced trees. JAN made 31 records in three 1km squares of some 20 species of galls. Many of them were associated with mites and midges, with just two species of sawflies *Pontania bridgmanii* and *Phyllocopla oblita* both on the same Crack Willow *Salix fragilis* group. Two galls of interest included the very common gall on Goosegrass *Galium aparine,* which has been re-determined as *Cecidophyes rouhollahi,* previously considered to be *C. galii.* Both form identical galls but a re-examination of British material has concluded that the latter species has not been seen in Britain. The second gall of considerable interest, that of the plant louse *Trioza apicalis,* was found in a wet ditch on Wild Angelica *Angelica sylvestris.* It causes the leaves to curl and become folded and thickened and was seen on two or three plants together to the south-

west of the circular reservoir. The NBN Gateway shows this species in only two 10km squares nationally.

TH reported that globular swellings caused by the sexual generation of the gall wasp *Andricus curvator* were discovered on a number of oak leaves. There were also tiny examples of the agamic generation of the Common Spangle Gall *Neuroterus quercusbaccarum* and the Silk-button Gall *N. numismalis* which will be fully mature towards the end of summer. Old galls of the Cola-nut Gall *Andricus lignicolus* and the Artichoke Gall *A. fecundatrix* were found on oak buds.

FLOWERING PLANTS (Richard Middleton)
Much of the time available was spent examining the site of the now-felled 'Sergeant Major' poplar wood at the extreme northern end of the site, where management is being directed towards restoring a mesotrophic grassland community (MG4). The area had been levelled and landscaped and was now well covered with plants which had arisen from the seed-bank and surviving root fragments. The most remarkable feature was the abundance of Large-flowered Hemp-nettle *Galeopsis speciosa,* a plant which seems to favour disturbed peaty soils in the Hull Valley. Over 80 plants were found, including Meadow Buttercup *Ranunculus acris*, Common Mouse-ear *Cerastium fontanum*, Meadowsweet *Filipendula ulmaria*, Red Clover *Trifolium pratense*, Ribwort Plantain *Plantago lanceolata*, Perennial Rye-grass *Lolium perenne* and Meadow Foxtail *Alopecurus pratensis*. All of these are considered constant species in the target community but many were only represented by a few plants on the whole site. It would seem that although it may be possible to restore the desired community by implementing a strict mowing and grazing regime, an element of re-seeding would be a more certain way of achieving the desired result in a reasonable length of time.

In the afternoon time was devoted to the southern end of the Reserve, between the 'O' reservoir and the River Hull. It was particularly pleasing to see a colony of Greater Water-parsnip *Sium latifolium,* introduced here using seed from Hornsea Mere, growing well among a fine display of Greater Spearwort *Ranunculus lingua* and Common Spike-rush *Eleocharis palustris*. The path around the reservoir was striking for the spectacular display of Des Etangs' St John's-wort *Hypericum x desetangsii* and enlivened by the season's last few Bee Orchids *Ophrys apifera*. A constant feature of this part of the Reserve was an abundance of fine spikes of Common Spotted-orchid *Dactylorhiza fuchsii*, several of which seemed to show a degree of hybridisation with various marsh-orchids. A stonewort collected from a small drainage ditch was later determined as *Chara vulgaris* var. *papillata* by A. Henderson.

Additional note (John Newbould)
I was particularly interested in a small area of marshy grassland to the south-west of the circular reservoir (TA067478). The area was difficult to investigate properly following the heavy rain of the previous day. It is a fine example of the NVC community MG10 Tufted Hair-grass – Yorkshire Fog *Deschampsia cespitosa – Holcus lanatus* community. Common Reed *Phragmites australis* was becoming established to the south but not, I suspect, sufficiently to accommodate Reed Bunting *Emberiza schoeniclus* without removal of some of the surrounding woodland and providing an area of shallow open water. Scrub consisting mainly of Hawthorn *Crataegus monogyna* and Dog Rose *Rosa canina* is invading the area, requiring some clearance and grazing by hardy cattle in the autumn. My species list contained Southern Marsh Orchid *Dactylorhiza praetermissa* and Common Spotted Orchid *D. fuchsii* but mostly hybrids of the two. There were, however, two plants of a robust pink *Dactylorhiza* with hollowed stems and keeled leaves to which I called the attention of my fellow botanists. One member suggested that it might be Early Marsh Orchid *D. incarnata*.

Later examination of a photograph leads me to believe that we had found *D. incarnata* ssp. *incarnata*. The plant is worthy of further investigation by local members. Other plants associated with wet grassland included Marsh Thistle *Cirsium palustre* and Common Valerian *Valeriana officinalis*.

LICHENS (Albert Henderson & John Newbould)
A lichen collection by John Newbould from the south-facing wall of the extensive rectangular water storage tank included thalli of *Xanthoria aureola*. This is a distinctive, mainly coastal species with irregularly spreading ligulate lobes, here growing alongside *X.calcicola* and *X. parietina* on and among the mosses *Grimmia pulvinata* and *Tortula muralis* (see Plate VIII, centre pages). This is the second confirmed record of this lichen in Yorkshire (see Seaward, M.R.D. *The Naturalist* (2008) 133 (1065):51).

The Howls, The Ings and The Carrs (VC61 and VC62) 21 July 2012
(NGR Centrum SE979789)

INTRODUCTION (Adrian Norris & Mick Carroll)
The meeting point for this VC62 Excursion was on the northern boundary of VC61, Haybridge Farm being situated in VC62. The wide range of wetland sites bordering the River Derwent on both sides of the vice-county boundary proved irresistible and twenty six members and friends representing 11 affiliated societies took the opportunity to record in the area. The weather was kind to us with unbroken sun and, despite the fact that the area is technically a flood plain, the water table proved to be slightly lower than normal for the time of year.

The area is owned and farmed by a variety of different families and in this respect we would like to thank the following for allowing access: Mr Burton, Staxton; Mr Tony Hill, Manor Farm; Mr & Mrs Wrigley, Potter Brompton Farm; and David & Helen Sixsmith of Haybridge Farm. Large areas of farmland are now being farmed under the Advanced Environmental Stewardship Scheme. Thanks to the work of Tim Birkinshaw, the Scarborough Borough Council Wetlands Officer and his team, the Cayton and Flixton Carrs Wetland Project is progressing towards its aim of re-establishing large area of open landscape with a variety of wetland habitats more akin to the original fenland habitats of this flood plain.

BIRDS (Mick Carroll)
This area of the Upper Derwent is going through interesting times with wet grassland and washed scrapes starting to attract a lot of different birds throughout the year. Hunting Barn Owls caught everyone's attention before the day's battle plan was revealed by Tim Birkinshaw. Tree Sparrows were in the hedgerows, Whitethroat and Garden Warbler on the river banks. Nine Greylag Geese were about and above us was a large feeding flock of Swifts, Swallows and House Martins. A persistent Marsh Harrier was seen and Pied Wagtails were feeding on the track sides.

At the north end of the bridle path through Haygate Farm a large flock of Linnets was feeding in the Oil Seed Rape and two Corn Buntings were seen on the adjacent hedge. Wrens were also hunting insects in the Rape and c.150 Wood Pigeons were in the bare patches caused by flood damage. Juvenile Buzzards started to bark and call and were very interesting to watch. A party of Long-tailed Tits was seen and by the railway track on drier parts of the farm

Greenfinch and Goldfinch were found in good numbers, together with more Tree Sparrow. To the north at 4 o'clock two Buzzards were thermalling above West Ayton.

MOLLUSCS (Adrian Norris)
Five 1 km squares were visited and 7 individual locations surveyed. This resulted in 83 individual records of some 34 species. Of these, 27 records were in VC62 and 56 in VC61.

The three members of the section present concentrated mainly on the freshwater habitats of the River Derwent, the River Hartford and some of the major land drains. The River Derwent and the land drains proved to be poor for freshwater molluscs but the River Hartford produced a number of interesting records and observations. Perhaps the most interesting of these was the occurrence in numbers of the River Limpet *Ancylus fluviatilis* on the leaves of water plants, replacing the Pond Limpet *Acroloxus lacustris* whose normal habitat this is. The Pond Limpet appeared not to occur in the River Hartford, although large numbers of plants were examined. The River Limpet's normal habit is to cling to hard substrates such as stones, palings, etc., in fast flowing rivers and streams, as it does in the adjoining River Derwent. The River Limpet has never been observed attached to water plants in any numbers, as far as we are aware.

INSECTS (Bill Ely)
Banded Demoiselle *Calopteryx splendens* and the marshland soldier beetle *Cantharis lateralis* were seen at the meeting point by Sara Robin and I, together with Small Tortoiseshell *Aglais urticae,* Meadow Brown *Maniola jurtina* and Ringlet *Aphantopus hyperantus* butterflies, the dumpy sodierfly *Pachygaster atra,* the assassin fly *Dioctria atricapilla,* the dark-winged snail-killing fly *Coremacera marginata.* We also found the gall caused by the midge *Dasineura acrophila* on Ash leaflets, which are rolled and inflated until they resemble pea pods. The ichneumon *Phrudus monilicornis* was a new vice-county record, but for VC61, not VC62! The small snipefly *Rhagio lineola* and the snail-killing fly *Trypetoptera punctulata* which is a dry woodland insect were in the un-named woodland just north of Hay Bridge Farm, but still in VC61.

FLOWERING PLANTS (Don Grant)
In the morning members visited Potter Brompton Carr, an intensively grazed area with little diversity in its flora. Most of the 53 species recorded were common, the only rarer ones being Welted Thistle *Carduus crispus* and, in one drainage ditch, Blunt-flowered Rush *Juncus subnodulosus.* Two shallow water scrapes in the field had been dug only a year ago and had not been colonised by aquatic plants.

After lunch the area adjacent to the River Hertford was visited. Here the vegetation was rank with, for example, Hemlock *Conium maculatum* eight feet high. The only plant of interest was the bramble *Rubus dasyphyllus,* which is uncommon in East Yorkshire. The river bottom was covered with a water-starwort *Callitriche* sp.

Members then travelled to Willobry village to examine a strip of fallow ground adjacent to a cornfield, which was covered by thousands of plants of Bugloss *Anchusa arvensi* and Black Bent *Agrostis gigantea.* Interspersed were colonies of Poppy *Papaver rhoeas,* Corn Spurrey *Spergula arvensis*, Loose Silky-bent *Apera spica-venti* and Black-grass *Alopecurus myosuroides.* The rarest species here were Lesser Chickweed *Stellaria pallida and* Night-flowering Catchfly *Silene noctiflora.* One member reported a single flower of Flixweed *Descurainia sophia.*

Scammonden Reservoir (VC63) 11 August 2012
(NGR Centrum SE055103)

INTRODUCTION (Joyce Simmons)
Twenty-nine YNU members and friends who attended this meeting represented 13 affiliated societies. They were not deterred by the initial chill in the morning high above the reservoir and later the weather was warmer and brighter. The wet July meant that the reservoir was full, so that the draw-down zone was covered by water, which obliterated some hoped-for plant species.

Breeding birds had, on the whole, left the area and so few were seen. Conchologists had hoped for more than the 22 species which they found, insects were generally not very plentiful, though ichneumon wasps were pleasingly frequent. Mosses, however, were found to be abundant, and lichens included a species not seen in this area for 150 years.

The botanists' list was long, with some interesting species, but particular concern was felt that inappropriate planting of trees will destroy much of the natural habitat and its associated fauna. Plantations which have matured are not being managed, so the dense canopy does not allow for the growth of any ground flora. Young trees have been planted recently amongst the Heather *Calluna vulgaris* and Bilberry *Vaccinium myrtilis*. These will disappear as the canopy closes in, destroying the food plants of such species as Green Hairstreak butterfly and Emperor Moth. The grasslands surrounding the water are much less valuable as habitats for the native species, so tree planting here would be less damaging. It is hoped that more sensitive management in future will take account of all native species on the moorland, and not just assume that, if it is a tree, it must be better for the environment.

Thank you to the Jack O'Mitre public house for opening specially for the well attended tea meeting.

HISTORY
The reservoir, in a Pennine valley at about 300m above sea level, was constructed in 1966 at the same time as the M62 Leeds-Manchester motorway was being built. It became TV news in the drought years of the 1970s, when a lane of the motorway was closed to allow road tankers to discharge water from the River Derwent in East Yorkshire into the reservoir, the only way to get water into the existing mains network. The outcome of this was the construction of the West Yorkshire water grid. Water could then be piped to most parts of the county. This means that in dry summers hard water from the Derwent appears in West Yorkshire water mains.

BIRDS (Mike Denton)
By August most birds have ceased to sing and can, therefore, be difficult to detect. As a consequence very few passerines were encountered and the only singing birds were a couple of Willow Warblers. The only other warblers were two calling Blackcaps. During the summer months the area holds a good breeding population of both Skylark and Meadow Pipit, but no Skylarks and only two Meadow Pipits were in evidence, showing how quickly these species can vacate their breeding locations. A walk to Deanhead Reservoir only revealed the presence of a handful of Swallows and House Martins, along with a single Mistle Thrush and a Kestrel (the only raptor seen during the day).

The reservoir at Scammonden was more productive and harboured six Great Crested Grebes (all adults), about 20 Black-headed Gulls, three Grey Herons (there is a small heronry near the Church), at least five Cormorants and four Mallards. The usual flock of Canada Geese was absent for reasons unknown. A flock of about 50 Lapwings was in a nearby field and a party of three Curlews (a local breeding species) flew over. A Great Spotted Woodpecker was on the eastern flank of the reservoir and two Green Woodpeckers were seen and heard making their characteristic yaffling calls. As stated earlier, very few passerines were seen, but a group of four Bullfinches (a Red-listed species) flew over the car park at the end of the meeting.

MOLLUSCS (Adrian Norris)
Terry Crawford and I surveyed five areas surrounding the reservoir and we produced 53 molluscan records. A total of 23 species were located around the basal area of the reservoir at SE055169. Most were of little note but it was interesting that the Kentish Snail *Monacha cantiana* is able to survive in this area of the Pennines.

LEPIDOPTERA (Paul Simmons)
The cool and wet summer weather has had a significant effect on butterflies and moths. Very few individuals and species were seen, many fewer than expected for mid August, even for this altitude. Surprisingly, Small Skipper was the most numerous species, especially around the south side of the reservoir. Except for this species, Gatekeeper and Meadow Brown, all other eight species were in single figures. The only Nymphalid was Small Tortoiseshell and the only moths were Pale Straw Pearl and larvae of Cinnabar.

COLEOPTERA (Mike Denton)
Only 16 common beetles were recorded but August is not the most productive month for them and the very wet weather conditions during the summer appears to have depressed populations of a number of species. The most interesting aspect of the day concerned the lack of certain groups. At this time of year vetches and trefoils, although past their best, usually harbour a good number of 'seed' weevils belonging to the Apionidae. Although patches of these plants were widely distributed, not a single beetle of any species was found. A full list of those encountered has been housed with Kirklees Council and the data incorporated into the Kirklees Invertebrate List maintained by the author.

ICHNEUMONS (Bill Ely)
Insects from many parts of the Kirklees area were collected by David Maude and Mike Denton in the mid-1980s and the ichneumons were passed to me. As a result, the district shows up as adequately recorded in the biodiversity map that I published early last year but those records are now nearly thirty years old, so it was useful to have the opportunity to update some of them. In addition, thirteen species were new to the 10km square, which has moved up to a total of 71. One of them, the lepidopteran parasitoid *Hypomecus quadriannulatus,* is new to VC63 and new to West Yorkshire, while another, *Limerodes arctiventris*, is also new to West Yorkshire. The latter insect parasitises Noctuid caterpillars feeding in grass stems and the adult is, accordingly, very slender. Two other ichneumons are new to the Kirklees district - *Absyrtus vicinator*, which is orange and usually flies at night, and *Promethes sulcator,* which parasitises the larvae of hoverflies. A copy of these records will be deposited with West Yorkshire Ecology, which provides a biological records service for the Huddersfield district.

DIPTERA (Roy Crossley)
Diptera recording was restricted to the Dolichopodidae (long-footed flies), and collecting was concentrated on the muddy margins of the numerous channels which drain the former wet pastures bordering the footpath that skirts the stream at the head of the reservoir. Twelve species were found, all of which are widespread and common in such places across much of Yorkshire, so a few new dots have been placed on distribution maps and several specimens have been retained for future study.

Hoverflies were represented by *Eristalis* drone-flies - most of the ones I saw were *E. tenax* feeding on the heads of thistles, but other species were no doubt present. A single example of the spectacular black-and-white *Volucella pellucens* was seen, I counted three specimens of the presumed bee mimic *Cheilosia illustrata* and a species of *Helophilus* was photographed (see Plate VIII, centre pages). *Platycheirus granditarsus* was reported and I saw a single specimen of the slender hoverfly *Leucozona glaucia*. All in all, a very poor representation, but not unexpected in what has generally been regarded by dipterists as one of the least productive seasons in memory.

FLOWERING PLANTS and FERNS (Don Grant)
Members walked down from the car park to the reservoir edge. The hillside had a large colony of the Glabrous-headed Hawkweed *Hieracium vagum* and there were seed-heads of an unidentified orchid. The south-facing bank of the reservoir has been planted with trees, which give shelter to plants. Seven species of bramble were discovered in this area, *Rubus scissus, R. lindebergii* and *R. incurvatiformis* being the rarer ones. An exciting find was *R.lanaticaulis*, a species new to northern Britain, recently found also in Lancashire, and common in West Wales. Other plants of note here were Greater Burnet *Sanguisorba officinalis* and Western Gorse *Ulex gallii*.

Returning along the opposite shoreline path, members found Pink Purslane *Claytonia sibirica,* Wood Horsetail *Equisetum sylvaticum* and Round-leaved Crowfoot *Ranunculus omiophyllus*.

BRYOPHYTES (Tom Blockeel)
Bryophytes were recorded around the periphery of the reservoir. A contrast to the generally acid environment was provided by concrete at the motorway underpass at the eastern side of Scammonden Dam. Some concrete bollards had an unusual flora which included *Cryphaea heteromalla* (normally an epiphyte) and *Syntrichia latifolia* (usually on tree bases in the flood zone of rivers but now increasingly found on old tarmac and other man-made substrates). *Syntrichia ruralis* was also present. Calcareous gravel by the cycle track along the dam supported *Fissidens adianthoides*, *Encalypta streptocarpa* and, most unexpectedly, *Didymodon acutus*, a rare species in Yorkshire and usually found in limestone districts. *Schistidium rivulare*, also not normally found in gritstone areas, was found on boulders by the reservoir. Some time was spent in the woodland around the reservoir but, being young and/or planted, it had only a few common bryophytes in the ground flora. *Pellia neesiana* was found in a seepage under trees but most of the bryological interest was in the epiphytic flora. As expected this proved to be quite rich, in stark contrast to the situation only 20-30 years ago. Among the ones recorded were *Cryphaea heteromalla*, *Orthotrichum pulchellum*, *O. lyellii* (sparse, on Sycamore *Acer pseudoplatanus*), *Sanionia uncinata* (on sheltered sallows), *Ulota phyllantha* (plentiful), *Frullania dilatata*, *Metzgeria violacea* (=*M. fruticulosa*, very common on the more sheltered trees) and *Radula complanata* (one patch). However, the most significant record was *Pylaisia polyantha* on a Sycamore tree at the edge of a small Beech plantation. This is widespread in Derbyshire and the Peak District but has only

scattered localities in Yorkshire, and this is the first record in VC63 since it was found at Broughton near Skipton by John Nowell in 1856!

The inflow stream at the southern end of the reservoir is very acid. It had an abundance of *Hygrohypnum ochraceum* with *Hyocomium armoricum*, *Racomitrium aciculare* and *Scapania undulata*. It was pleasing to see a fruiting patch of *Tetrodontium brownianum* on wet grit rocks flanking the stream; this is a widespread but scarce species on the gritstone moors. *Jungermannia pumila* occurred in a similar habitat nearby. The very high water level in the reservoir left no possibility of investigating the interesting flora that could have been expected on bare ground in the drawdown zone. However, bare soil was exposed on recently scraped ground in ditches and other places by the tracks around the reservoir and these were being colonised by a number of pioneer species. *Dicranella rufescens* was quite frequent, *Atrichum crispum* was occasional and *Pseudephemerum nitidum* had already developed capsules in one place. Less common species included *Discelium nudum* with immature capsules, *Pohlia flexuosa* and *P. drummondii* with bulbils and *Pohlia lutescens* with rhizoidal tubers.

The one habitat that had no bryological interest was the rank grassland that covered some of the slopes around the reservoir. However, the good mix of other habitats resulted in an unexpectedly high total of 101 species on the day.

LICHENS (Prof. Mark Seaward & Albert Henderson)
At first glance, a landscape subjected to two centuries of industrial scarring and consequent air pollution and currently dominated by a reservoir and a motorway, did not look prepossessing from a lichenological point of view. However, our fears were not realised. In the morning we devoted our time to the churchyard at Deanhead (SE046150), formally a thriving settlement (the architecture, including the church, attesting to this) and dramatically perched on the hillside overlooking the western side of the reservoir. The church and almost all of the gravestones are comprised of Millstone Grit. The few calcareous stones, which would normally support a more diverse and colourful lichen flora, were of marble and poorly colonized. In all, only 19 lichens were recorded from the gritstone, but cement pointing on the church and churchyard wall added a further eight species; however, our meagre list was boosted by our investigations of the muscicolous *Cladonia* assemblages on the wall coping-stones and ephiphytes on churchyard trees (19 more, 46 species in all), the highlights being *Hypotrachyna revoluta* on a table tomb and *Parmotrema perlatum* on a mature oak.

In the afternoon, we split into two parties, one of us (MRDS) mainly investigating the margins of a wooded area on the eastern side of Scammonden Lake (SE0516 & SE0515). Although the extensive imported stones on the margin of the reservoir were virtually devoid of lichens, only two crustose species being noted, the relatively young trees bordering the footpath adjacent to the reservoir were more fruitful and supported 16 species (mostly nitrophytes), the most interesting being *Physcia aipolia*. The trackway from here to the car park in a north-easterly direction proved even more interesting, some mature Sycamore trees (at an altitude of c. 925') supporting most of the epiphytes found on the above-mentioned young trees as well as much higher cover values of foliose lichens, including *Parmotrema perlatum*, *Punctelia jeckeri, Melanelia* spp. and *Ramalina farinacea*. Nearby, several coping stones of the wall on the north-west side of the track supported the locally rare *Arctoparmelia incurve* and *Lecanora subaurea*. The other party (AH, Ian Instone and Chris Young) first explored the heathland north of the A640, where there was a generally patchily distributed *Cladonia* sward of *C. chlorophaea, C. fimbriata, C. pyxidata, C. diversa, C. floerkeana, C. macilenta*

and *C. polydactyla*. Surprisingly little *Placynthilla icmalea/uliginosa* was seen, reflecting the dryness of this exposed heath away from the humidity of the reservoir valley. Walls, outcrops and boulders by the A640 were also inspected. One considerable stretch of wall coping had a virtually continuous stippling of *Aspicilia contorta,* with very little *A. calcarea*. Outcrops and boulders held *Lecanora orosthea, Rhizocarpon concentricum, Trapelia coartctata, T. placodioides* and *Trapeliopsis granulosa,* but species at each site were various selections of species encountered in the church in the morning. When *Lecanora conizaeoides* occurred, it was in poor or failing condition, a fading relict of the time of overall sulphur dioxide fallout in the region. The flora here was largely reminiscent of those seen around industrialised areas in the wake of the Clean Air Acts of the 1950s.

In all, the day realized 67 lichens, several of which were new to the 10km square.

YNU Annual Conference and Exhibition 2013

'Using Yorkshire's Biological Data'

Saturday **March 23** 2013 at the National Science Learning Centre, University of York.

Conference fee (which includes lunch) £20.00 for YNU members and £25.00 for non-members.

Enquiries and Bookings to Miss Claire Neill, c/o NEYEDC, St William's College, College Street, York YO1 7JF; telephone: 07950 984779; email: membership@ynu.org.uk

Payment by cheque payable to Yorkshire Naturalists' Union at the above address or online at www.ynu.org.uk

Conference speakers will include: Geoff Oxford (University of York); Simon Pickles (NEYEDC); Jeremy Ison (BSBI); Ian Court (Yorkshire Dales NPA); Helen Markland (Doncaster BC). The programme is not yet finalised but full details will appear on the YNU website as soon as possible.

YNU Calendar 2013

Those events planned for the period January to May 2013 are listed below, together with significant ones organised for June. Future events will be listed in the next editions of *The Naturalist*, and further details may be found on the YNU Website. For contact details of people mentioned in the Calendar, please see the YNU Membership Card or Website.

Feb	9	Natural Sciences Forum. St Chad's Parish Hall, Leeds, 10:00–12:30
	23	Executive meeting. St Chad's Parish Hall, Leeds, 10:00–12:30
Mar	2	Education committee meeting. NEYEDC, St William's College, York, 2:00
	7	Historical Section Meeting. Work in progress, Walton Hall, 11:00
	10	Lepidoptera Group Annual Meeting. Bramham Village Hall. 11:00
	16	Entomological section. Recorders' Reports, Conversazione. Wilberfoss Community Centre. 2.00
	23	**YNU Annual Conference and Exhibition** 'Using Yorkshire's Biological Data'. National Science Learning Centre, University of York (see box p239)
Apr	13	Conchological section. 1km recording, Forest of Bowland area. Meet at car parking area near cattle market in Gisburn SD827488
	28	Marine & Coastal Section. Robin Hood's Bay – MBA Shore Thing Survey. Meet at 10:30 (NZ953048)
May	1	Training Day. *Basic Field Skills* for University of Leeds students. Leeds Discovery Centre and St Chad's Parish Centre from 9:30. If you are willing to tutor a small group please contact Terry Crawford.
	4	Bryological Section Field Meeting. VC62, Cronkley Fell, Meet on the B6277 at NY867298
	11	Conchological Section. 1km recording Leeds and Liverpool Canal, meet in small car park near bridge, Ings Lane, Low Bradley SE001483
	18	VC63 Excursion. Cromwell Bottom, near Elland. Car park grid reference SE125224
	25	Botanical Section Field Meeting. VC63, Austerfield, Doncaster. Meet on the roadside at SK660953
Jun	8	VC64 Excursion. Grassington, Grass & Bastow Woods, SD9865 and SD9965
	14-15	BES Festival of Ecology. Scarborough Spa. Ecological activities and displays from 10am-4pm on Friday and Saturday in Scarborough Spa and the surrounding area. Please contact Paula Lightfoot via p.lightfoot@btinternet.com or 01904 449675
	21-22	24 hour Bioblitz in Whitby organised by OPAL. If you would like to get involved please contact Sarah West.

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Registered Charity No. 224018

The Naturalist

This publication is issued free to individual members of the Yorkshire Naturalists' Union and to Affiliated Societies. The Editorial Board of *The Naturalist* is currently:

J. Bowers, W. Ely, A. Henderson, A. Millard, P. Simmons, S. West

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Please see *The Naturalist Guide to Consistency* on p77 of *The Naturalist* 1079 and please **avoid** the following:

- using tabs to tabulate information (please use MS Word table format or separate the column entries in a single row with commas and enter a paragraph mark at the end of the row).
- inserting any figures, graphs or plates into the text; indicate their proposed locations in the text and send as separate files.

Good quality, high resolution images are very welcome and should be sent as .jpg files, with a separate MS Word file containing the caption and name of the person to whom the image should be attributed.

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Copy Dates:
April issue - **14 February**; August issue - **14 June**; December issue - **14 October**

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ISSN 0028-0771

Yorkshire Naturalists' Union

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